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How to do Aseptic Surgery in Country Practice.

Read before the Sixth District Medical Society held at Downs, Kas., October 9, 1890.

BY F. M. DAILY, M. D., SCOTTSVILLE, KAS.

GENTLEMEN:—The question of how to practice aseptic or clean surgery in the country is one of much importance to the general practitioner, as on it depends the prevention of much suffering and a safeguard against death. In the cities the large and well arranged hospitals with their corps of assistants trained and well drilled in the technique of modern antiseptics, it is very easy for the surgeon to perform operations that would seem to the country physician dangerous to undertake, especially so if the patient was located in a sod house or a Kansas shanty—perhaps miles away from a drug store that carried in stock a pound of absorbent cotton or iodoform gauze.

The country surgeon may be called at any moment to meet formidable injuries, and under such unfavorable surroundings that at first glance it would appear impossible to do clean surgery. If there are any here to-day laboring under the impression that aseptic surgery cannot be practiced in the country as well as in the hospitals, I hope they will from now on join in the march with progressive surgeons and learn that there is no such thing as impossibility and but few failures to record by the surgeon who accepts for his guiding angel, "Cleanliness in the extreme." Upon this one word, "Cleanliness," hangs the key note to all successful surgery from the lancing of a gum-boil to an amputation or laparotomy. While we may not handle the scalpel as neatly and speedily as a Tait or McBurney our per cent. of success will not fall far in the rear if we will only practice what I am now preaching, "Cleanliness in the extreme." By this I don't mean that we should only have our own hands and persons clean, but that our patient, our assistants, and everything that comes in contact with our patient should be religiously and scientifically clean. Suppose we should receive a call to go out in the country to-night to do an amputation for a man whose limb was caught and crushed in the greasy cog wheels of some machinery—we find our patient's limb, as well as person, an entire stranger to soap and water—how shall we proceed to do an aseptic operation, and what materials should we have in our possession to do it with? Our surgical satchel must contain the following: One 5-yard can 10 per cent. iodoform gauze, one 5-yard can 5 per cent. carbolized gauze, one-half pound borated absorbent cotton, one pepper box filled with Merck's crystals iodoform, a solution of carbolic acid made in glycerine that one tablespoonful to a pint of water will represent a strength of one per cent., one bottle of Dr. Bernay's formula of bichloride of mercury tablets—one tablet to a pint of water represents a strength of 1 to 4.000, one roll of gutta percha tissue, and fountain syringe of not less than one-half gallon capacity, one bottle filled with sterilized gauze cut in small pieces for sponges, one-half dozen roller bandages, last but not least, one cake of soap with hand and nail brush and a good sharp razor. Now, the cost of the entire outfit will not exceed $7.50, and can be carried very easily in an ordinary-sized valise. Now we will proceed to prepare our patient for an aseptic operation: Wash, scrub and shave all about the field of operation; after shaving, irrigate with a 1 to 2.000 bichloride of mercury solution—after these

washings the surface is lightly sprinkled with iodoform and a large compress of sterilized gauze soaked in a 2 per cent. of carbolic acid solution is bound on the surface covered with some impervious material such as gutta percha and left on until one is ready to make the incisions. By carefully carrying out these processes the surface of the body at the site of the operative procedure is rendered absolutely aseptic and the danger from infection of any wound thoroughly by any microbe from the surface is rendered practically impossible. Absolutely the same procedure should be carried out by ourselves and assistants in order to render the hands and arms aseptic, particular attention being given to the finger nails. During the operation the hands should be frequently washed in sterilized water only. If the operation is an aseptic one, and if not aseptic in a 1 to 2.000 bichloride of mercury solution; the clothing of every one about the patient should be prevented from carrying septic material by wearing a clean shirt or gown with sleeves rolled well up, as long sleeves are frequent carriers of all kinds of infectious material into wounds. The immediate surroundings of the place of operation should be covered with dry clean towels, over them again towels wet in a 2 per cent. solution of carbolic acid. Our instruments must be sterilized by thoroughly scrubbing with soap and water, then boil them for twenty or thirty minutes, after which they are placed in the platter covered with a 1 per cent. solution of carbolic acid and kept there until used, and to which they are returned when out of use, after being washed clean. Our instruments should be so constructed that they can be easily taken apart so that all joints and irregular surfaces may be thoroughly cleansed. The only safe sponge to use is sterilized gauze, and this is rendered sterile by boiling in water for two hours—then cut into small pieces and put in stoppered bottles or a glass jar that can be made air tight, keep moistened with 2 per cent. solution of carbolic acid; after using gauze for sponging throw in the fire and burn so that it will not be brought into use again. In abdominal operations sea sponges must be used as they are more easily accounted for. The ligatures used are either silk or catgut prepared so as to be positively aseptic; the following is a very good and sure method of making them such: Boil silk in water one-half hour and then preserve in 5 per cent. solution of carbolic acid. The catgut should be immersed in 5 per cent. solution of carbolic acid for forty-eight hours, then in 1 to 1.000 bichloride of mercury solution in strong alcohol for eight days. It is then preserved for use in strong alcohol, or equal parts of alcohol and oil of juniper; dressings after the wound is closed are always dry. Dust surface with iodoform, place over this several layers of iodoform or carbolized gauze, and over this thick layer of absorbent cotton, over cotton gutta percha tissue and roller bandages. Never put medicine solutions of any kind in an aseptic wound, the idea being to add in no way to the irritation produced by use of knife and other instruments; if the wound is not much irritated there will not be any greater flow of serum than the absorbents are able to carry away, therefore it is seldom necessary to use a drainage tube. Now, if the wound is already a septic one, how shall we proceed? Carry out exactly the same procedure described in an aseptic operation. The septic or suppurating surface to be thoroughly irrigated with a 1 to 3.000 bichloride of mercury solution, follow this with that element that excels all others as a pus searcher and cleanser, namely: per oxide hydrogen, or in the absence of this any of the following fluids are good cleansers of septic surfaces: A saturated solution of boric acid, or a teaspoonful of tincture iodine to a quart of hot water, or 5 per cent. solution of carbolic acid. I believe that solutions of mercuric bichloride should never be used stronger than 1 to 3.000, and in most cases I believe thoroughly sterilized hot water to be as efficacious as any of the agents mentioned, and it has this one advantage—it is perfectly harmless to the patient. Such irritants as antiseptic fluids should never be used in operations about the brain or in abdominal cavity. After the septic surfaces have been treated as suggested, only in rare cases should the wound be completely closed by sutures—it is usually best to pack with iodoform gauze and leave in until loosened by developing granulations; in this way the wound can be kept perfectly

aseptic for any length of time providing the external dressings are changed at proper intervals and the same care practiced at each dressing as we carried out during the primary operation.

Now, gentlemen, I am sure if you will follow out in every detail the line of practice mentioned, only adding and improving in the matter of cleanliness, you will find all your cases go on the road to recovery without much pain, no temperature, no pus, and all wounds made or treated will heal rapidly and kindly. I will report a few of the cases treated by this method in the past six months, and the results:

Case 1—M. Farmer, American, age 60. On the evening of March 5, while caring for a cow she became enraged, goring him in right side below shoulder blade making an ugly punctured lacerated wound extending down to ribs. *Treatment*—Irrigated wound with sterilized water, dusted surface with iodoform packed with iodoform gauze, over this four layers of gauze borated cotton and gutta percha tissue and bandage, Examined wound on March 7, 9, 11 and 17, and discharged patient with wound healed; no pain, no heat, swelling or pus.

Case 2—J. Carter, farmer, American, age 81, suffering with abscess over region of mastoid bone, the result of septic infection from an injury received on scalp two months previous. On March 13 made free incisions down to bone, curetted out all necrotic tissue, irrigated with 1 to 3.000 bichloride mercury solution, packed with iodoform gauze with same dressings as described in first case; examined and redressed wound on March 15, 18 and 20; discharged patient with wound all filled in with nice, clean, healthy tissue; result, no pain, temperature, swelling or pus.

Case 4—M. Collins, farm hand, American, age 16, on evening of June 22, while chopping wood, ax glanced striking foot making a cut two inches extending to bone; brought surfaces together with silk sutures after irrigating thoroughly with sterilized water; dusted with iodoform gauze, dressed with gauze, cotton and gutta percha; examined wound on fourth day, removed sutures, found union perfect, with no pain, no temperature or sweeling.

Case 4—H. Hole, American, farm hand, age 17. On evening of July 4, a horse attached to a buggy got frightened at fire works display, and dashing down the street ran into a crowd of boys. The point of buggy shaft struck this young man over upper edge of malar bone under right eye, fracturing bone and making a punctured wound that would admit index finger to depth of an inch or more. The concussion of eye produced a detachment of retina resulting in immediate and complete loss of vision. Irrigated wound with sterilized water, removing fragments of bone with fingers, dusted surface with iodoform, packed with iodoform gauze, dressed with gauze, cotton and gutta percha. He was taken to his home eight miles in the country the same evening; returned to my office to have wound examined and redressed on July 6, 9, 12, 15, 18, 21, 25 and 28; discharged patient with wound all filled in with nice healthy tissue leaving but slight cicatrix and depression. This young man never suffered a moment's pain, had no swelling, no increase of temperature and no pus. The injured eye did not even give him the slightest pain or discomfort, and gave no appearance of any inflammatory action.

Case 5—H. Tornaby, a farmer, native of Norway, age 78, suffering with a hard nodular tumor; began to develop around right nipple and had assumed about the size of a goose egg. Advised removal at once and on Tuesday, July 8, assisted by my student and Dr. McCasey of Jamestown, in a granary about 6 x12 covered with prairie hay, for an operating room, we removed the tumor by elliptical incision keeping clear of indurated tissue about one-half inch, making a wound about five inches in length and three inches in width; the indurated tissue extended down to ribs. Surface sponged dry with gauze sponges, edges brought together with catgut sutures, passing one heavy double suture through center or base of tumor about 1¼ inches from edges of wound, and tied over a small roll or pledget of gauze to relieve the tension of small sutures and assist in counteracting skin and muscular traction; dusted surface with iodoform and applied the dressing described previously; visited patient Friday, July 11, and found him

sitting up smoking his pipe; passed a flow of sterilized water from fountain syringe through drainage tube—the exit of water was as clear as when entering; removed tube and applied dressings with instructions to his son to bring patient to my office for future dressings. On tenth day found union complete with not a moment's pain; no temperature and no pus, and patient only confined to his bed one day.

Case 6—Isaac McGinnis, farmer, American, age 50; on July 18, while trying to drive a loaded shell out of gun with a nail the shell exploded and resulted in tearing the flesh from the palmar surface of three fingers leaving the tissues in shreds and pieces; irrigated surfaces thoroughly with sterilized water, brought fragments together with fine silk occasionally using a small piece of isinglass plaster on silk prepared with salicylic acid; dusted surface with iodoform placing over this iodoform gauze spread with ointment 10 per cent. iodoform in vaseline—this was put on to prevent gauze from adhering to sutures and surfaces of wound. Dressed wound on July 21, 24, 28, and on August 2, discharged patient, surface all healed with usual results, except patient complained of suffering very much pain on the first night following the injury.

These are only a few of many minor injuries and operations that have been treated by this process in the last six months with equally as good results in all.

Digitalis—Indications for the Use of.

Read before the Golden Belt District Medical Society of Kansas, in Regular Quarterly Session, at Abilene, Kansas, October 2, 1890.

BY WILLIAM B. DEWEES, A. M., M. D., SALINA, KANSAS.

Now that that universally acknowledged authority, Prof. H. C. Wood, of Philadelphia, in the very able and instructive "Address on Anæsthesia,* delivered before the Tenth International Medical Congress, in Berlin, August, 1890, has proclaimed: "Avoid the use of all drugs except strychnine, digitalis, and ammonia," as the first rule for the treatment of accidents during anæsthesia. Supported by extended experiments, he brings his weight of evidence in favor of digitalis as being, next to strychnine, the most trustworthy drug to counteract the circulatory depression naturally produced by the anæsthetic.

Having this late evidence as additional proof of digitalis being a most reliable heart-tonic, while the correct use of this potent remedy—invaluable, and still standing alone and unsupplanted, in certain cases of lack of power in the heart—is, as yet, scarcely general; therefore, it was thought appropriate to this occasion, to bring under discussion *the indications for the use of digitalis.*

By remembering Rosentein's maxim, "digitalis fills the arteries and empties the veins," the practitioner will rarely experience any difficulty in deciding when to give, or when to withhold the potent digitalis. The great guiding factor to be remembered about digitalis is, that it increases the power of ventricular contractions, and that the clinical indication for its administration is an empty artery.

The therapeutics of cardiac affections has been greatly advanced in recent years, not only by the discovery of numerous heart-tonics, but also by the acquirement of important details in regard to the administration of the older remedies, by which their efficiency has been greatly advanced.

Digitalis was long regarded as a cardiac—sedative—"the opium of the heart;" because it rendered the heart's action slower, or less tumultuous. Slower, certainly, then as now, in those cases where the rapidity is due to the action of an irritable muscle; irritable because becoming exhausted. But when the rapidity of the heart's action is due to nervous disturbances, digitalis, then, is not useful, "because it slows the action of the heart." This is an error, for in these cases digitalis exerts no action worth estimating, in fact is useless, if not actually harmful. Again, in this class of cases, the heart disturbances are chiefly due to inhibitory action of the vagus, and thus the heart becomes overworked by resistance, at the periphery. Here, then, the indications are arter-

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ial dilatation; as in this way the arterioles are dilated, and thus the heart muscle is nourished by sending more blood to it, which also is a powerful stimulus to the ganglia, thereby bringing on the needed systolic action.

It being remembered, that in this class of cases, viz., when heart failure is due to inhibitory action of the vagus, we find the heart stopping in diastole. The remedy that will give the most prompt relief in this class of cases is nitroglycerine, through its power of reducing peripheral resistance; while digitalis is contra-indicated, because it increases heart power as well as the resistance at the periphery; and it does not increase the nutrition of the heart, but overworks it. In other words, digitalis acts as a *vis a tergo*, while nitroglycerine acts as a *vis a fronte*, dilates the peripheral vessels and removes the resistance. In this connection we find Yeo makes a most wise remark in his recent "Physiology," speaking of the special heart ganglia he says: "These nerve cells only require their nutrition kept up by a constant blood-supply, in order to develop the energy necessary for their functions."

"Digitalis is to be given in mitral disease, but withheld in aortic disease," is a time-honored maxim, still impressed with lasting effect into the student's mind by some teachers. This, as a rule, is misleading. Digitalis is usually of service in mitral disease—but how about aortic disease? When a hypertrophied left ventricle is struggling against a contracted aortic orifice, but not quite successful—how about digitalis? In those cases the system is suffering from want of arterial blood, because the ventricle is unequal to driving *a sufficiency of blood through the narrowed ostium in the normal time*, to keep the arteries full. Here we find digitalis often acts most potently, indeed furnishes the most brilliant illustrations of its properties as a heart-tonic. By increasing the vigor of the propelling power—the ventricular contractions—the normal amount of blood is pumped into the arteries in the normal time, and thus the arteries being kept full, tissue nutrition is improved everywhere, including the structures of the heart itself.

Again, when aortic regurgitation is dilating the left ventricle too swiftly for hypertrophy to be built up to arrest the dilating process, what is the value of digitalis? Simply inestimable. It arrests the dilating process; the ventricle recovers its size, and, with that, much of its vigor; the muscle is better nourished, while that compensatory hypertrophy is built up which often enables the afflicted one to pursue an active life for years. Certainly, on the other hand, both in aortic stenosis and aortic regurgitation, while the muscular compensation is complete and sufficient, and the patient is fairly well, there is no good end to be attained by giving digitalis.

We do not give digitalis because there is valvular disease present, but when the system is suffering in consequence of the said valvular lesion. The digitalis has no influence on the injured valve, but is of mighty service when the muscular hyperplasia, which compensates the valvular defect to a great extent, is not provided by the powers of nature. By the aid of digitalis the natural powers will often be enabled to surmount the difficulty and secure a muscular growth or hypertrophy, which is practically compensatory. Such compensation is most perfectly seen in aortic stenosis.

In simple dilatation of the left ventricle, without necessarily any valvular lesion; the mitral valve may leak, but not as the result of any distortion of the valve curtains, but rather the ostium has stretched with the yielding of heart muscle, and the valve curtains become insufficient to close the ostium completely on the contraction of the ventricle. Such a condition is common where the dilatation has taken place too rapidly for the valve curtains to stretch *pari passu* with the yielding of the muscle.

Here digitalis is usually, likewise, of priceless value; but its utility will be greatly enhanced here, by placing the patient at complete rest, which means, strictly confined to bed—just as much as if the case were one of broken thigh.

Now, when we come to discuss the effects of digitalis upon the right ventricle, there is something more to be considered than the heart merely. There is the respiration! There are about 250 cubic inches of "residual" air

in the thorax, and the act of respiration takes place normally about 18 times per minute. By such "tidal" air the "residual" air is kept fairly pure. But when the thoracic space is encroached upon either by air in emphysema, connective tissue in cirrhosis, diminution of the calibre of the air tubes from thickening of the bronchial lining membrane, or by engorgement of the blood vessels in mitral disease; then the respiration must be more frequent in order to keep the residual air fairly pure. The stimulus to respiration is the effect of venus blood, laden with carbonic acid, upon the respiratory centre in the medulla. When there is an excess of carbonic acid in the blood circulating in this centre, then the respiratory efforts are increased in vigor until the excess of carbonic acid is got rid of. The right ventricle being embarrassed it is not usually enough to give digitalis to increase the energy of the contractions of the right ventricle. Though, of course, all medical men of much experience have met with striking illustrations of the almost magical effects of digitalis in the pulmonary engorgement of mitral disease: many can also tell of cases where digitalis failed to afford relief under these circumstances, or even increased the respiratory embarrassment.

Under these circumstances, of mitral lesion, no matter what form, with embarrassed respiration, the best results are obtained by administering also strychnine, a well recognized "respiratory stimulant." Here, the effect of the digitalis upon the right ventricle, and that of the strychnine upon the respiratory centre, work together for good with most satisfactory results. The good effects of this combination, are conclusively demonstrated in those cases where digitalis given alone fails to do good; but where the addition of strychnine at once maks a striking alteration for the better. The proper relation of digitalis to stimulants of the respiratory centre is a matter far from being understood generally by the profession.

Digitalis is also a diuretic. Whenever the bulk of urine rises after its administration, then I know digitalis is doing good. The bulk of urine is the index of arterial fullness. When the arteries are filled by the action of digitalis the bulk of urine is increased. In other words, the rise in the bulk of urine tells in the most unmistakble manner that the action of the drug is filling the arteries. Thus, in dropsy, when the bulk of urine is low, and the specific gravity is high, then digitalis is preeminently useful. When albuminuria is present from venous engorgement in heart failure, digitalis will often be followed by its disappearance. As the arteries are filled the veins are depleted; the albumen, which tells of venous congestion, disappears as this state of the veins is relieved; as the arteries are filled the bulk of urine rises.

Before I conclude, let me say a few words in regard to another condition in which digitalis is sometimes given with injurious effects, which contrasts with the foregoing conditions, viz.: The hypertrophied, gouty heart often palpitates when there is arteriole spasms, and the larger arteries are tense and full of blood. The resistance offered by this full arterial system to the onward flow of the blood at the cardiac systole is such that the ventricle palpitates in its efforts to contract effectually. Such a condition is commonly seen in the "chronic Bright's disease without albuminuria," so well described by Dr. Mahomed and others. Here digitalis does harm, for the arteries are already full to the risk of apoplexy. Indeed this last accident has followed the administration of digitalis under these circumstances. The full artery, then, it is to be remembered, is a contra-indication, just as much as an empty artery is an indication, for the administration of digitalis, whether the heart be diseased or not.

In conclusion, the indication, then, for the use of digitalis, is not a murmur in the heart, nor a certain form of valvular lesion, nor tumultuous action, nor yet rapidity of action, but whenever it is desirable *to fill the arteries and empty the veins.*

DISCUSSION.

Dr. Felty—In a subject of so great importance as this, we must feel it our duty to enter heartily into an earnest discussion. Dr. Dewees, in my opinion, is deserving of praise and credit for bringing this timely topic, and the very able manner in which he has presented the same. That digitalis was, next to strychnine, the best drug at our command to

counteract the depressing effects of the anæsthetic, is what I took home with me, with a great deal of interest, as being entirely new to me. I have always regarded ammonia as the best remedy, but I cannot gainsay the authority of Prof. Wood. The specific effect of digitalis upon the vagus, and the respective heart ganglia, as well as the sympathetic nerves, renal, and brain centres, is still an open question. Ammonia, brandy and whisky, all act chiefly by stimulating the sympathetic heart ganglia and paralyzing the inhibitory centre, known by flushed condition of the skin, which is due to dilatation of the blood vessels. I would ask Dr. Dewees to answer,

1. How digitalis acts upon the heart?

2. In what diseased condition of the heart is it indicated?

3. If it is to be given in all cases of mitral disease, regurgitation, or aortic stenosis?

4. If any difference, tell when to give and when to withhold digitalis?

Dr. Austin—I think digitalis acts a little slow, and ammonia quicker, and I feel confident of having seen good results from the use of ammonia, in those cases.

Dr. Blesh—The topic is timely, and has been very interesting food for my mind, in the plain and simple manner presented. I feel really profited, to the extent that I know more about the indications for the use of digitalis than ever before. Recently, under the observation and assistance of one of the members here present, I was giving the anæsthetic (ether) in a case where abdominal hysterectomy was performed. Suddenly there occurred alarming depression, and I resorted to the hypodermatic injection of *brandy* in one-half drachm doses, repeated eight times, at intervals of three to five minutes the first few injections, then every ten to fifteen minutes, with successful results.

I would ask Dr. Dewees whether the tincture, fluid extract, or the alkaloid digitaline, are all equally efficacious to produce the characteristic effects of the digitalis on the heart? If not, what preparation of the drug is to be most relied upon? Also whether heart-failure, complicated with shock, is likewise best treated by digitalis? In these latter cases I have found the aromatic spirits of ammonia to give good results.

Dr. Ketchersid—Digitalis is one of our most useful drugs if rightly used. To use it intelligently, it must not be forgotten that digitalis increases arterial tension, and thereby decreases nutrition. This latter applies especially to the heart-muscle itself. Therefore the drug must be used, but limited as to time, or else you exhaust the heart-muscle. My experience teaches me that the tincture of digitalis gives the best and most reliable results.

Dr. Daugherty, President—I have used digitalis a great deal, but not always with satisfaction. The potency of the remedy depends on the reliability of its properties. I have given two to three-drop doses of the tincture every two to three hours, and in a short time I found I had a tetanized heart. Then again, I have given large doses with no noticeable effects. Ringer tells us that digitalis acts chiefly on the left side of the heart, noting no apparent effect upon the right side. This would explain the phenomena of its good effects in filling the arteries. There is so much blood in the body, which if equally distributed throughout the blood vessels, as in the normal state, will cause to fill the arteries and veins to a moderate degree, but when venous congestion takes place it is at the expense of the blood in the arteries, which then become proportionately empty. To restore this normal equilibrium of the circulation, by filling the arteries and proportionately emptying the veins, digitalis does undoubtedly prove of the greatest service. Therefore digitalis is indicated whenever there is a weakness of the left ventricle. If you have dilatation of left ventricle, without compensatory hypertrophy, it is indicated. But when there is compensatory hypertrophy, then it is contra-indicated. I know of no better distinction or indication than those brought forward by Dr. Dewees, on this subject

Dr. Dewees—In concluding this discussion I shall first endeavor to answer the queries propounded by Dr. Felty:

1. Digitalis, in medium doses, acts upon the heart—according to the most approved physiological experimentations—by stimulating the cardiac-motor ganglia, the inhibitory apparatus, and the vaso-motor centres, contracting the arterioles, thereby producing a

great rise in arterial tension. Thus digitalis produces increased heart-power, as well as resistance at the periphery, whereby nutrition of the heart-muscle is decreased. In other words, digitalis increases inhibition and stimulates the cardiac-motor centre, and with full lethal effects finally paralyzes the cardiac-ganglia by over stimulation, arresting the heart in systole. It therefore must follow that digitalis does not increase the nutrition of the heart, but overworks it. This has been very properly noticed by Dr. Ketchersid in his remarks, while he also gave a safe rule for its administration when he said "digitalis must be used, but limited as to time, or else you exhaust the heart's muscle."

2. It is not the disease, but the condition of the heart, which defines the indication for the use of digitalis. This condition is an unbalanced state of the normal equilibrium of the arterial and venous blood circulating in the blood vessels in the body, *i. e.*, when the veins are abnormally full and the arteries abnormally empty. Whenever this condition arises, regardless of the kind of disease of the auricular, ventricular, or aortic orifices, then, and then only, is digitalis indicated. Now this condition may arise. (*a*) In mitral disease, when the heart becomes rapid and feeble, and respiration impaired; here digitalis, by virtue of its effects upon the heart, does moderate pulmonary hyperæmia and engorgement, by giving the auricle time to empty itself through the obstructed orifice. (*b*) In simple dilatation of the heart, without compensatory hypertrophy, digitalis will restore the heart to its size and vigor, enabling the muscle to be better nourished, whereby that compensatory hypertrophy is built up, which alone can offer prolonged life to the afflicted. (*c*) In dilatation of the right side of the heart with incompetency of the tricuspid-valves, it may be employed. (*d*) In aortic disease, when compensatory hypertrophy has not set in, as well as in aortic stenosis, as explained in my paper.

3. Thus, I trust, that I have conclusively shown that digitalis is to be given in mitral and aortic diseases, whenever the condition indicating the use of digitalis manifests itself, otherwise never.

4. I have defined when to give the potent remedy under discussion; it now remains to answer when to withhold the same. This is chiefly summoned up by three diseased conditions of the heart, viz.: Simple hypertrophy, pericarditis and fatty heart. I might add under the head of when to give digitalis, that its value in the condition of what is known as an irritable heart, is well known to all of extended experience. This condition is due to over-exertion or exhaustion, and is oftenest presented in soldiers, heavy laborers, first stage of pneumonia and other inflammations, scarlet fever, congestion, headache, hemicrania, delirium tremens, mania, venous engorgements; dropsy, renal and cardiac, and even in hemorrhage from a large surface as in menorrhagia, or hemorrhagic diathesis; in which latter it often acts as a hemostatic. Here the good effect is due to the fact that digitalis produces prolonged systolic power, and likewise prolonged diastole, whereby the weak muscles are empowered to do more work, just as one powerful blow of the blacksmith's hammer drives a nail further than a larger number of weak blows of a child, though the same amount of energy may have been expended.

In answering Dr. Blesh, I will first say with Dr. Dougherty, that "the potency of the remedy depends upon the reliability of its properties," which if alike contained in the various preparations of the drug named, would undoubtedly alike produce the same characteristic effect. But experience has demonstrated that the tincture and the infusion are the two most reliable preparations. Dr. Wood advises the use of the tincture hypodermatically in heart-failure from the anæsthetic.

In heart-failure, complicated with shock, we have an altogether different state to deal with; here we have the nerve-centres stunned or depressed, without any toxic element in the blood, while in the heart-failure during anæsthesia, we have the depression resulting from the toxic effect of the anæsthetic upon the nerve-centres. Digitalis is undoubtedly likewise useful in this condition; nevertheless, owing to the nerve-centres being free from poisonous depression, we are more likely to find good effects here from warmth, nitro-

glycerine, ether, nitrite of amyl., alcohol, ammonia, caffeine, strophanthus, atropine, etc., as these agents are cardiac stimulants and tonics, producing their effect quickly and relieving peripheral resistance.

In regard to the reliance on brandy or alcohol, the experiments of Prof. Wood and R. Dubois, prove "that alcohol intensifies the influence of chloroform and ether, and lessens the fatal dose." Prof. Wood, in his experiments, included the more important remedies which have been used by clinicians for the averting of threatened death during anæsthesia, viz., ether, alcohol, ammonia, nitrate of amyl, digitalis, atropine and caffeine; also alterations of position and artificial respiration." He concludes, therefore, as follows: "The rule for the proper treatment of accidents during anæsthesia can be summed up in a very few words:

"Avoid the use of all drugs except strychnine, digitalis and ammonia.

"Give the tincture of digitalis hypodermically. Draw out the tongue and raise up the angle of the jaw, and see that the respiration is not mechanically impeded.

"Invert the patient briefly and temporarily.

"Use forced artificial respiration promptly, and in prostrated cases employ external warmth and stimulation of the surface by the dry electric brush, etc.; and, above all, remember that some, at least, and probably many, of the deaths which have been set down as due to chloroform and ether, have been produced by the alcohol which has been given for the relief of the patient."

Corneal Ulcers,

WITH SPECIAL REFERENCE TO THEIR TREATMENT WITH THE GALVANO-CAUTERY.

Read before the Topeka Academy of Medicine and Surgery, October 7, 1890.

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Physicians practically agree as to what an ulcer is, and whether any wounded surface is to be so regarded; but to give a definition of it is about as difficult as it is to define inflammation.

Bilroth says an ulcer is a wounded surface which shows no tendency to heal. According to this definition, every large granulating wound which halts in its progress towards a cure may be regarded as an ulcer.

But the following definition best meets the requirements: An ulcer is the result of the death or destruction of tissue in invisible masses, in which the histological elements of the tissues lose their identity with the formation of pus as a result of molecular disintegration.

This definition is in contra-distinction to the definition for necrosis, which is a death of tissue in visible masses, without the formation of pus, and in which the histological elements of the tissues retain their identity.

An ulcer is always preceded by a stage of inflammation, accompanied by cell proliferation and cellular infiltration of the surrounding tissues. Leucocytes appear coming from the neighboring vessels, and in the corneal tissue, if there be any lesion of the epithelium, they may come from the conjunctival sac. They force their way along the numerous canals, and in so doing take on an oblong, curved or spindle shape. They appear in rows, and under focal illumination, constitute the fine straight lines which are so often seen after wounds.

The part swells, and an elevation above the surrounding surface is seen, and is now primarily designated an *abscess*. If the infiltration be near the center of the cornea, it is generally round; if situated near the margin of the cornea it coincides with its contour. Its color at first gray, becomes yellowish. The abscess is surrounded with a grayish cloud, and frequently we see grayish lines, deeply seated, stretching from its margin to the periphery of the cornea. It is formed by the destruction of the cellular elements and the inter-cellular substance of the cornea, serous and plastic infiltration and leucocytes.

The epithelium covering the abscess, because of the stretching, becomes thinned, and on the slightest provocation from irritation a break occurs in the continuity of the tissues and it becomes an *ulcer*.

This has increased the liability to infection. Only a short time before it was protected by Nature's antiseptic wardrobe, but it is now exposed and permits the free ingress of pyogenic germs, and is soon swarming with myriads of parasites.

Two processes are now at work, the reparative and the destructive; the one antagonistic to the other, the destructive process usually predominating. In this case it is termed a *suppurating* ulcer. When the reparative process predominates it is termed a *proliferating* ulcer.

The contents of the abscess are sometimes liquid and are absorbed, no break occurring in the surface. At other times it is so thick that the contents are not evacuated on puncture. The pus in the abscess may spread between the lamellæ, and extend to the lower portions of the cornea, assuming the form of an arc, and it is known as an onyx.

Should it perforate posteriorly it descends into the bottom of the anterior chamber, and it is called hypopyon. This usually signifies the intensity of the process and calls for active measures.

Ulcers involving the superficial layers of the cornea leave no opacity. Opacities are the result of the changes already described by which the homogeneity of the tissues is impaired. As an analogy, we find when glass is reduced to powder, it becomes white; water as foam, or crystallized into snow is no longer transparent. The cause of this is the irregular way in which the light is reflected from the multiplied surfaces.

The management of one of these cases, so long as it maintains its special suppurative character, is always a cause of anxiety and annoyance to the surgeon. For not only is there danger of perforation leaving adherent leucoma and permanent opacity of the cornea, but in a considerable proportion of cases, the pus makes its way into the deeper parts of the cornea, causing onyx, or when it perforates, hypopyon, and the suppurative process extending still farther, it is liable to cause the complete functional destruction of the eye.

The main indications to be met in the treatment of corneal ulcers are:

1. To relieve pain.
2. To impede and check destructive tissue metamorphosis.
3. To encourage the reparative process. In the atonic or indolent ulcer there is little or no pain. This variety requires active stimulation. While on the other hand the irritable ulcer requires no stimulation, particularly in the acute stage.

It is our aim in this paper to speak of the merits of the galvano-cautery in the treatment of corneal ulcers.

The application of a red-hot platinum tip to the cornea, appears at first thought to be dangerous and hazardous to the safety of the eye. Before the days of cocoaine, the actual cautery was so used in eye diseases, yet it was unsatisfactory, nevertheless its importance was fully recognized. But cocoaine has had a significant influence on the success of the operation, facilitating and admitting of a more delicate manipulation into the different individual tissue layers, carrying it just so far as is necessary.

The introduction of this valuable local anæsthetic has done away with the unpleasant features connected with the galvano-cautery, viz.:

1. The cauterization of a strip of healthy corneal tissue from an inadvertent movement of the patient on the approach of the heated loop, or a sudden turn of the eyeball on the application of the heat.
2. The suspension of the cauterization too soon.

A few minutes after the instillation of a few drops of a 5 per cent. solution of cocoaine, there is complete anæsthesia of the corneal layers, so that the approach of the red-hot loop, or its repeated application (which is usually accompanied by considerable hissing and sizzing) causes no painful sensation.

The operation requires no aid from an assistant. With the thumb and index finger of the left hand, the operator separates the lids, and with the right applies the heated loop to the infected zone, making and breaking the current by the simple pressure of a button on the handle of the electrode.

In a short time we observe a surprising change. The adjacent corneal tissue gains in-

creased transparency: The turbid aqueous becomes clearer. The trifling pain following the operation soon ceases. If there is hypopyon it is speedily absorbed. The zone of infiltration rapidly recedes and fades. And in many cases within the next twenty-four hours such an improvement will be manifested as to show the destructive process to be at an end, and the process of repair already begun. However, if after twenty-four hours the ulcer shows a tendency to extend, a similar "touching" should be again resorted to.

The loop should be applied until the masses of detritus clinging to the floor and sides of the ulcer are destroyed. The bordering infiltration for a short distance should also be destroyed; none of this parasitic material should be allowed to remain; it should be completely sterilized. If this be done a recurrence need not be feared, for it is a fact now universally admitted, that the development of spores becomes impossible on sterilized soil.

The treatment by the galvano-cautery, as outlined, secures benefit to the tissues in a threefold way:

1. It separates rapidly and thoroughly the parts already involved from the yet healthy tissue.

2. It averts the extension of the infection, and makes the adjacent tissues aseptic.

3. It stimulates the tissues to take on a healthy reparative process.

Especially applicable is the galvano-cautery in the treatment of rodent ulcers, in which every new point of infection demands its prompt destruction. Here we require a white-hot tip sufficiently delicate to allow of the nice manipulation necessary for working in a district of no more than a millimetre in extent. And this is only possible with the galvano-caustic loop, which is brought to a red heat at the exact moment when it is needed, and cools as quickly, and produces no annoying light effects by the glowing of the wire.

It is also highly serviceable in scrofulous ulcers of the cornea, which show a deep crater-shaped excavation, with sharply cut edges, accompanied by a light grade of ciliary irritation and muco-purulent conjunctival secretion, and which defy all therapeutic agencies.

It is applicable also in those ulcers due to the entrance of foreign bodies. When we adopt the expectant plan of treatment in order to test the efficiency of the ordinary therapeutic means, the hypopyon being insignificant, yet the ulcer is extending slowly, and delay often leads to considerable destruction of corneal tissue in depth and breadth. With the galvano-cautery we can promptly destroy the poisonous intruder, and induce a new, fresh reaction in the entire tissue.

And, lastly, in the chronic indolent ulcer, painless and apparently lifeless, showing no tendency towards a reparative process, the galvano-cautery is an efficient agent to stimulate and bring about a healing process.

As naked facts and not general commendations are to be expected, I shall now take leave to present six cases, all of which came under my observation and treatment, in the past three months.

Case 1. Austin S.——, age 16, after a six weeks' siege of intestinal obstruction, reducing him from 150 pounds to a mere skeleton of 95 pounds, and being scarcely able to walk, was brought to our office June 2, 1890, with the lower half of the cornea white, as the family called it, which they said came on during the last week of his illness.

Examination showed an indolent suppurating ulcer extending transversely, almost entirely across the lower half of the cornea. The infiltrated zone covering fully one-half of the corneal area; also hypopyon, accompanied with intense photophobia, lachrymation and pain. After securing local anæsthesia, the entire surface involved was thoroughly cauterized with the platinum loop, and the debris was completely cremated. This was repeated every other day, but much lighter each time, for one week.

Fearing an increase of tension and liability of rupture, owing to the thinness of the corneal walls, a week solution of atropia was used every two or three hours to secure mydriasis, and prevent possible prolapsus of the iris and synechiæ, should perforation occur. To render support to the thin walled globe, a roller bandage and compress were applied, and he was directed to maintain a reclining posture as much of the time as possible.

Notwithstanding his debilitated and emaciated condition, and the meagre allowance of food yet apportioned him for fear of a return of his intestinal trouble, in two weeks he was permitted to go home with the eye free from pain; surface of ulcer smoothed over with new epithelium. A leucoma marks the site of the battle-ground, but the eye is a useful one.

Case 2. Mrs. H.——, Nickerson, Kansas, while disinfecting a bedstead with a mixture of kerosene oil and concentrated lye, was struck in the left eye with some of this fiery liquid. Destruction of the corneal epithelium ensued, necrosis and infection of the underlying lamina followed. She suffered excruciating pain, intense photophobia and lachrymation, continuing three weeks. When brought to our office June 15, 1890, the lower half of the cornea was involved, presenting a yellowish, dirty appearance. Infiltration of the remainder of the cornea was rapidly taking place and there was deep scleral injection.

After cocanizing and applying the galvano-cautery thoroughly, with an occasional drop of a weak solution of atropia and hot water baths she passed a comfortable night, the first since the injury.

The cautery was re-applied a few times whenever the surface of the ulcer appeared roughened. At one time, while using the cautery, the cornea perforated, the aqueous escaping with a hissing, spurting sound. This is a cause for alarm, but usually it is an advantage, if there be an increase of tension and hypopyon, as the then diminished tension will prevent the possible formation of a staphylomatous cornea, and the opening will give free egress of the pus from the anterior chamber; also, the aqueous in passing through the perforation, if it be in the site of the abscess will wash out its contents.

In about two weeks the infiltration became circumscribed, the denuded surface smoothed over, pain ceased, dread of light absent, and simply an opacity below the pupillary range remained to mark the site of the ulcer.

Case 3. Mr. W——, of Topeka, presented himself with ulcer serpens of the cornea, August 3, 1890. At first the calomel insufflation treatment was tried, but its effect was only temporary; then sulphate of copper pencil was applied, but this only increased the hyperæmia, the ciliary injection and pain. Finally the galvano-cautery was applied, following the entire route of the ulcer. This had the prompt and desired effect. The inflammatory symptoms subsided almost as rapidly as they had appeared. Authorities are pretty generally agreed that this form of ulcer is due to mycotic fungi, and we know no better germicide than heat. A single application was all that was necessary in this case. No opacity remained.

Case 4. Sammy L——, of Garfield, Kansas, August 4, while herding cattle thought he was struck in the eye by an insect or bug of some sort. An unpleasant sensation was all that was felt at the time, and was soon forgotten. In a few hours the eye became very painful, accompanied with intense photophobia and lachrymation. A semi-lunar whitish yellow discoloration along the lower border was soon noticed; this rapidly increased in size and extent until the third day, when the whole eye was thus covered and suppurating profusely. Poultices of various kinds were applied in rich measure to hasten (?) recovery, as his friends thought, but only to hasten the destruction of the ocular tissue. On the fifth day after the injury, August 7, 1890, he was brought to our office. Extensive sloughing of the cornea was then taking place; sheets of fibrinous pus was fast escaping from between the lids; palpebral and ocular conjunctiva deeply injected; Some extravasation of blood had occurred in the palpebral conjunctiva; lids œdematous; palpation of ciliary region gave pain; light imperceptible.

The eye was thorougly washed with a hot saturated solution of boracic acid. After cocanizing, the galvano-cautery was most thoroughly and effectually applied, keeping well over the centre of the cornea, taking care not to burn the limbus of vessels near the sclero-corneal junction. This was repeated every day for a week. Much to our surprise, at the expiration of one week, we had the pleasure of seeing the dim outlines of the pupil and the grayish cast of the iris.

Sloughing of the cornea had ceased, and

though somewhat hazy, yet he could discern objects as they passed before the eye. At the expiration of three weeks he was discharged.

Case 5. Mrs. P——, farmer's wife, fifteen miles north of Topeka, about 35 years of age. Had some trouble with her eye for several days, when she noticed a white speck in the left eye. April 26, 1890, she called on us, and examination showed a small, circular corneal abscess at the upper and outer margin of the pupil, 3 m. m. in diameter. At this time there was no pain, and although circumscribed and involving the corneal tissue proper, we advised the use of hot fomentations for fifteen to twenty minutes, three or four times a day. There was a decrease in the amount of pus for two days. On the morning of the third day onyx appeared, and the abscess was opened; but the pus was thick and tenacious, and the hot applications were continued. The pus broke through the posterior wall of the cornea; hypopyon ensued and a paracentesis was done letting out the pus, and the hot water was continued for twenty-four hours.

The ulcer showed no signs of healing. The eye was then cocanized, and the whole ulcerated surface was cauterized, opening the anterior chamber. The next day a marked improvement was noticed.

Three or four applications were all that were required, and in three weeks she was well, with a useful eye, but a small opacity in the site of the ulcer.

Case 6. Frank B——, age 20, has had granulated lids for two years; had an ulcer on the right eye about eighteen months ago. Five weeks ago came to our office with trouble in his left eye; photophobia and lachrymation intense, accompanied with severe pain. Examination showed a row of ulcers, some three or four in number in the upper half of the cornea, extending transversely across it; a heavy pannus covered the intervening space between the row of ulcers and the periphery of the cornea above. This eye was his visual organ, his right being totally and heavily covered with pannus. After cocanizing, the galvano-cautery was applied to the row of ulcers, following which pain increased; infiltration of the remainder of the corneal tissue ensued, and light became almost imperceptible, so that he had to be led about. Thinking possibly the destructive process had not been entirely destroyed, the cautery was reapplied but with no better results than before. The eye was irrigated with a weak carbolized solution 1-100, also a boracic acid hot solution. Not seeing much of any improvement on the following day the ulcerated surface was touched with concentrated carbolic acid from the end of a probe.

The eye appeared to be growing worse despite all efforts at cauterization. These were then discontinued. Hot bi-chloride fomentations, 1-5000 were directed to be used every hour, with frequent irrigation of the conjunctival sac with boracic acid, saturated solution, and the occasional use of a mydriatic.

This procedure has been kept up for three weeks, during which time all pain has ceased, vision is slowly returning to the eye as the infiltration disappears from the cornea. A leucoma marks the site of the ulcer.

CONCLUSION.

1. The galvano-cautery is always indicated in those ulcers which take their origin in mycotic infection. In such cases it gives the most thorough disinfection of the floor and sides of the ulcer, and at the same time stimulates the process of repair.

2. Repair is shown almost at once after the application, in the clearing of the aqueous humor, dilatation of the pupil is more easily obtained, absorption of the hypopyon and increased diffusion of the corneal tissue.

3. In most cases it does away with the necessity of the corneal (Saemisch's) incision; because when the evacuation of the contents of the anterior chamber is required, it can best be effected by means of the heated loop for the reasons I have before mentioned.

4. The operation causes but slight pain—no assistant is necessary.

5. The healing process is considerably shortened, and the final result shows a much less extensive and dense opacity of the affected corneal tissue.

6. Dr. Noyes, in his recent work on Diseases of the Eye says: "It is in the early and progressive stage that the cautery may most confidently be employed." In case 3 it was employed in the early stage, but in cases

1, 2, 4 and 5, it was employed late in the disease, when destruction of the eye seemed certain, and with gratifying results.

7. The pain following the application of the galvano-cautery is less and of shorter duration than that of any other caustic.

8. The extent and limitation of cauterization can be definitely measured—not so with any other caustic.

9. The mode of applying the heated galvano-caustic is exceedingly simple and easy to master.

The Formation of Urethral Stricture,

WITH SPECIAL REFERENCE TO ITS TREATMENT.

Read before the Golden Belt Medical Society, October 2, 1890.

BY F. B. BROWNE, M. D., SALINA, KAS.

A stricture of the urethra is generally considered to be due to more or less prolonged inflammation, specific or otherwise, of the lining membrane of the canal, which ultimately leads to the deposition of organized lymph in the peri-urethral tissues. This ultimately is converted into a dense connective tissue, which subsequently shows a remarkable tendency to contract.

Thus the escape of urine from the bladder is interfered with by the degree to which these contractile masses encroach upon the calibre of the canal.

This contraction becoming a source of annoyance, either by causing gleet, if of large calibre, or by interfering with free flow of urine if small. Now, all this may be true on the whole, but it does not enter into details with which we must be familiar for the prevention and treatment of the disorder. It will be convenient to take an illustration for the purpose of tracing more gradually the process of stricture, making as a consequence of specific urethritis or gonorrhœa, which is admitted to be the common cause of urethral stricture.

The acute form of this disorder, unless care is taken, is very apt to merge into the condition known as chronic granular urethritis. By this latter term we understand that at one or more spots within the urethra, the epithelium has become so damaged, by the prolonged inflammation, that it ceases to make the canal urine-tight, and a slow process of escape of some of the constituents of the urine into the tissue comprising the urethra and around it, takes place. As a consequence of this and to prevent urine soaking further into the tissue, inflammatory exudation is excited and barriers of lymph, which eventually become organized are thrown out opposite the places where the leakages take place. Thus splints of plastic tissue are formed where the spot or spots of epithelium have been denuded by the persisting inflammation. In this strengthening of the urethra we recognize, in the first instance, a conservative action. But, eventually, however, as in all other compensating processes, it constitutes an independent disease. Though the mucous membrane is the tissue chiefly involved in the primary inflammation, it is, as a rule, only secondarily implicated in the stricture-forming process. In many instances it will be found after death that the dimensions of the mucous membrane are not altered. The plastic exudation which makes up a stricture differs from exudation provoked in other parts of the body by inflammation, in the degree of its density and tendency to contract. I known of no tissue in the human body—except perhaps that found after scalds and burns, where the original tissues are entirely destroyed—which is so tenacious and resisting as that constituting the usual form of urethral stricture. Here we have a cicatrix formed, which of all strictures is the most resisting and contractile. Cicatricial tissue manifests this tendency to contract and obliterate the canal more strongly than tissue formed by cell-proliferation after ordinary inflammation. One cannot help thinking and wishing that it were possible to transplant this process of tissue-thickening and contraction, as observed with the formation of traumatic urethral strictures, to the parts constituting the weak points we are desirous of consolidating in the abdominal parietes for the radical cure of hernia.

Here it would be serviceable instead of detrimental. The form in which stricture

tissue is deposited, and ultimately exercises contractile pressure on the urethral passage, is strongly suggestive that in the first instance it served the purpose of strengthening the wall of the canal, and thus preventing further leakage of some of the constituents of the urine taking place at points where the epithelial coat had been more or less permanently damaged.

Having referred several times to urine-leakage as being a potent factor in the causation of urethral stricture, I come to speak of what to my mind seems incontrovertible evidence in its favor, namely, *urine fever*.

In surgical practice we have long been accustomed to recognize, after injuries and operations, a form of excitement generally known as wound or traumatic fever. It varies in degree according to circumstances, attended by slight elevation of temperature, and usually declines without proving either serious or fatal. In striking contrast with this we have a distinctive form of fever, not unlike ague, which is alone seen in lesions involving the urinary tract. Let us take for example, and many times have I observed in my own limited experience, the simple introduction of a catheter or a sound, and even during an attack of gonorrhœa, where the patient urinates very frequently over the extensively abraded urethral surface, that in a few hours, he is seized with a rigor, which terminates in fever and an elevation of temperature. Cases are on record where the operation of internal urethrotomy has been followed by rigors, convulsions, suppression of urine and speedy death, post-mortem examination failing to discover any reasonable or recognized explanation.

Since the due recognition of those principles upon which Listerism is based, I found that certain antiseptic precautions, directed toward the wound as well as the bladder, for the purpose of acting upon the urine tended to prevent it undergoing changes and yielding products which were calculated by absorption to produce this special kind of fever, and considerably reduced, both the frequency of these attacks as well as their severity. I have reference to corrosive sublimate locally and quinine internally. Writers bear testimony to the value of boracic acid as a prophylactic against urethral fever. These observations indicate to me, that the kind of contact between fresh urine and a recently made wound was, in itself sufficient to cause urine fever. What these toxical products are my chemistry does not inform me. Let me quote from an essay of one of the most original thinkers the medical world ever produced: I refer to the late Dr. Austin Flint, "Analytical Chemistry" he observes, "carries investigation beyond the limits of microscopical observation. The latter at the present moment, both in pathology and physiology, seems to promise most; but is it not a rational anticipation to look for future results from chemical analysis of the components of the body in health and disease, which in brilliancy and practical utility may surpass those of the labors in this field of investigation during the past half century?

"The medical centenarian can recall the enthusiasm aroused by the labors of Liebig. Histology is now in the ascendant, but it is safe to predict that before the lapse of another half century there will be another era in organic chemistry, and that light will penetrate dark recesses which histology cannot reach. The supreme objects of study in pathology at the present time are the discovery of micro-organisms and their natural history. But these agents, it is probable, are pathogenetic, not directly, but indirectly, by means of the toxical products of their activity. What are these products, and how do they give rise to the phenomena of disease? We may ask the same question of certain of the poisons introduced from without the body.

"How is it that fractional quantities of morphia, hyoscyamin, strychnia, aconitia, atropia, and other alkaloids produce their lethal effects? It conveys no adequate information to say that they act upon the nervous system. This is merely the statement of a fact, not an explanation. For the latter we must look to the organic chemistry of the future."

There are a few practical points relative to the treatment of stricture and injuries of the urethra, arising out of what I have thus ventured to bring under your notice, to which I would like to refer. There are at present four different methods of treatment, namely, grad-

ual dilatation, electrolysis, divulsion, and urethrotomy; internal and external, according to the location of the stricture. Resorting to dilatation the canal is gradually restored to its natural size by absorption of a portion of the stricture tissue, each time the instrument is used. The explanation of this absorption, which certainly does follow, is this, that at each instrumentation the sound ruptures some of the fibres, and also some adjacent capillaries, allowing the lencocytes to escape and invade the tissues, thus causing a minute inflammatory process, which absorbs a small portion of the stricture. This is repeated from time to time until all or a major part of the band disappears.* The most important feature in the treatment by dilatation is a proper regulation of the intervals to be allowed between the sittings. The rule is, "that it is bad surgery to re-introduce an instrument, unless it be filiform—before the lapse of at least seventy-two hours, and that more progress will be made by waiting till after ninety-six hours, often even until the sixth, seventh, or eighth day."

So far as electrolysis is concerned, I cannot satisfy myself that any current which could with safety be used in the urethra, could have any effect in so dense and unyielding a tissue as stricture tissue. It is possible that the current may add to the effect of the sound a certain stimulating action, and in this way be of some value. But I have classed electrolysis as simply a modification of gradual dilatation.

Divulsion I do not favor, as it is an unnecessarily rough procedure, is attended by danger and does not cure radically, as the sound has to be used afterwards.

There are strictures so tough and resilient that the sound has no effect on them whatever. They are not necessarily extremely hard strictures, but are very tough and elastic, so that the passage of a full sized sound will not rupture any of the fibers. These can be cured by dilating urethrotomy, if in the pendulous urethra, and if in the deep urethra by combined internal and external urethrotomy. In these days of the heroic use of the knife, many surgeons, following the teachings of Otis—whose dictum is too dogmatic and applied too sweepingly—lay open the urethral canal indiscriminately, and marvelous is the result in the eyes of the patient But if in a few hours, toxic symptoms arise and death supervene, would you not censure yourself for not being more conservative? Again, extensive cutting of the anterior urethra leaves the canal defective in expulsive power.

The urine dribbles away from these widely cut canals at the end of each act of urination, more than from the normal urethra, and many patients complain of the inconvenience. If any instrument can be passed at all, the steel sound is the best, safest, and leaves a more normal canal. When pursued with gentleness the patient need not be confined to the house for an hour, nor lose a day from business and the risk of exciting complications is at a minimum. The treatment is longer surely, but if the surgeon will imagine what his own wish would be were he in the patient's situation, he will not hesitate to adopt the safer, but more tedious method.

When a stricture becomes so contractile and dense that dilatation is out of the question, then the open method of treatment is the safest, best and will yield the most permanent results. By this I mean the perineal section of Syme, or a modification of it, such as Harrison's combined method of internal and external urethrotomy. In this way you can cut your stricture through and through and with a hole in the perineum for drainage, we have a plan which has proved both safe and satisfactory.

If there is any force in the observations I have brought before you to-day they are these, first, that gradual dilatation is still the most approved method of treating urethral stricture. Second, the importance of applying to the treatment of wounds of all kinds involving the urethra, those principles which are the basis of Listerism, namely, drainage and cleanliness. There is no part of the human body to which disregard of these conditions is more likely to be attended with disastrous consequences.

In conclusion, gentlemen, most speakers begin with a text; I prefer to end with one; *urine can spoil tissue as well as blood.*

Read the new advertisements in this issue of the JOURNAL.

Neuralgia and its Treatment.

Read before the Topeka Academy of Medicine and Surgery, at Topeka, Kansas, October 7, 1890.

BY R. E. M'VEY, M. D., OF TOPEKA.
PROFESSOR OF CLINICAL MEDICINE IN KANSAS MEDICAL COLLEGE.

In considering the treatment of neuralgia the subject will be confined to what may be regarded as the curable forms of the disease, leaving out the question of organic affections of the brain and spinal cord, and the neuralgias caused from periosteal and osteal diseases and from tumors.

In the treatment of any disease some knowledge of its pathology and general behavior is necessary for the intelligent guidance of the physician. The pathological lesion of a neuralgia may be both central and peripheral. The sensory nervous filaments originate in the grey substance of the nervous centers and terminate in the sensitive membranes of the periphery. The neurilemma of the nerve trunks are penetrated by blood vessels, for their nutrition.

Neuralgic disease may be regarded as the result of trophic and circulatory changes brought on by an exhausted condition of some part of the nervous system. Exhaustion in the nervous centers may be produced by overpowering mental influences or by sexual excesses and by whatever overtaxes the nervous energies.

In the long continued and intractible forms of the disease, it may be assumed that there are atrophic changes in the central cells of the grey matter in the posterior columns. If the central cells in the posterior columns are subjected to long and protracted excitation their receptive faculties undergo alterations, by which ordinary sensations are grossly exaggerated, and normal stimuli may be received and transmitted in such a way as to cause pain, which is referred to the peripheral terminations of the nerves. When the heart is exhausted its action is quickened, as in an exhaustion of the cells of the posterior columns, their molecular action is enfeebled and with enfeebled action in the cells there will be electrical disturbances in the nerve centers, which will be manifested as a hyperaesthesia of the peripheral terminations.

In disturbed electrical conditions of an exhausted center, altered electrical currents will transverse the nerve, sometimes producing coarse stabbing pains, these coarse pains, temporarily overcoming the sensibility of the nerve filament, and we have in the affected nerve, hyperæsthesia alternating with anæsthesia.

Pains produced in any portion of the nerve filaments a re referred to their terminations, but the central cells in the grey matter of the cord are the receivers of sensations, painful or otherwise. This fact is well illustrated in amputation of the leg. When the stump of the divided nerve is irritated, the disturbance is referred by the patient to the foot or toes, the central cells not correcting the error until either the sense of sight or touch is brought into requisition. In obstinate and protracted neuralgias of the fifth pair, painful branches distributed to the face have been divided, without any permanent benefit to the sufferer, showing the disease to be central. After the removal of the ovaries for ovarian neuralgia, when caused from excessive sexual excitement the disease often returns after the operation when the marital relations are re-established, the disease not being in the ovaries but in the central cells of the cord. The nerve trunks are subject to vaso motor disturbances, from central causes, which either constrict or dilate their blood vessels.

If there is insufficient blood in the nervous centers, there will be irritability with functional disturbances in the organs of the body, which are called upon to perform some extra exertion. The blood may be sufficient in quantity but deficient in quality or contain foreign elements, specific poisons, as malaria or syphilis or the poison of rheumatism and gout, either of which cause neuralgic pains in the branches of the fifth pair, which are distributed to the face. Neuralgias of the lumbar region and of the sciatic nerve are often found to be of rheumatic origin.

In the peripheral forms of neuralgia, the blood supply of the terminal sensory fila-

ments are affected by sudden lowering of the temperature, either alone or accompanied by dampness, which chills and depresses the capillary circulation in the exposed parts. The terminal sensory filaments are affected by alterations in blood supply, by vascular constrictions they are rendered anæmic and by vascular dilations, hyperæmic. A man lies at night with one side of his chest exposed to a cold draught of air from an open window, the next day he finds he has a pleurodynia. The surface vessels of that side of the chest have been chilled. There is diminished blood supply, in the parts and pain has been produced as a result.

TREATMENT.

Local pains are best treated by hypodermic medication, this treatment being quick and certain. The introduction of medicine hypodermically, may be done safely if the needles and syringe be kept aseptic.

By the use of hypodermic medication we know exactly the amount that reaches the tissues and circulatory system. Neuralgic patients who have taken large doses of narcotics, without benefit, are sometimes cured by a few hypodermic injections of appropriate medicines. The injections should be made in the tissues surrounding the affected nerve.

But it is not necessary to make the injection over the diseased point if there are indications of inflammations resulting from previous injections. Timid patients who refuse to be treated hypodermically, can be relieved often by the local application to the affected parts, of:

Morphia acetate	grains ¼.
Spts. chloroform	drams ¼.

Which should be put on antiseptic cotton and covered with oiled silk. For hypodermic treatment the sulph. morphia, grains ½, and the sulph. atropia, grains $\frac{1}{60}$, are therapeutical agents, which have long been in use and have proved efficient remedies in controlling neuralgic pain.

In visceral neuralgia the tr. nux vomica is indicated, as in gastralgia and hepatalgia. The tr. gelsemium is a most valuable remedy in neuralgia of the face. It should be given in small doses, not above four drops every four hours. Croton chloral is efficient in tic douloureaux and sciatica. Two grains may be given every hour until fifteen grains have been given. If atrophic changes in the central cells are suspected strychnia in very small doses, $\frac{1}{100}$ of a grain may be given twice daily.

If there are atrophic alterations in the terminal filaments the

Alkalóid strychnia	grains 1.
Spts. chloroform	ounces ½.

may be rubbed over the anæsthetic surfaces, twenty-five drops at a time, and the parts then covered with oiled silk.

A five per cent. solution of the hydrochlorate of cocaine, may be applied locally over the sensitive foci in facial neuralgia, and its absorption promoted by a compress saturated with chloroform.

The positive galvanic sponge electrode, saturated with a five per cent. solution of cocaine and applied over the painful surface will often give relief. Dr. Richardson was the first to recommend the induction of anæsthesia by the use of a chemical in conjunction with the galvanic current. As the retention of the medicine in the affected parts is of great advantage, in holding the pain in check, bandages should be applied over the affected parts for this purpose.

In the treatment of long continued cases of neuralgia, the hydrochlorate of cocaine should be used in small doses. Dr. Corning injected hypodermically a solution of one half of one per cent. to the amount of one hundred minims in sciatica, along the the course of the nerve, which relieved the pain from twelve to twenty-four hours, it being repeated if the pain returned. He retained the medicine in the tissues by means of a tourniquet applied near Pouparts ligament. In spondylalgia, Dr. Corning uses a fine needle about three inches in length, provided with a handle and a sliding nut, which may be fixed at any portion of the needle by means of a screw. This needle he thrusts down about half an inch laterally, from the spinous process of the tenth dorsal vertebra, until the bone is reached. The nut is then pushed till it rests upon the skin, when it is secured by means of the screw. He then introduces a fine canula, with a sliding nut, to the distance previously noted on

the needle. A hollow needle is now attached to a syringe of one-hundred minims capacity. The syringe is filed with a one-half of one per cent. solution of cocaine and emptied deep into the tissues over the cord.

In the constitutional treatment of neuralgia a knowledge of the family history, showing the nervous tendencies, is necessary.

We can not build a substantial structure with a faulty foundation. Where the nucleus of the cell is faulty and unstable in its functions little can be done toward its permanent restoration. Where there is faulty cell function, there will be alteration in the blood, secretions, absorption, assimilation and nutrition. Deficiences found in the blood are effects instead of causes and exist previous to the local pains of neuralgia.

Medicines cure the affection chiefly by influences which cause the food to be transformed into healthy blood. In the central forms of neuralgia with atrophic change, quinine heads the list of restorative remedies. It should be given in small doses as it should be continued for a considerable length of time. It increases the blood supply of the central cells of the cord.

Antipyrin is a doubtful remedy only in neuralgias of rheumatic origin. It quiets pain through its analgesic effect. Fifteen grain doses are generally sufficient for neuralgias of rheumatic origen, as in lumbago, sciatica and the supra orbital affection.

Phenacetine may be used in neuralgia due to malaria, vaso motor disturbances and neurasthenia. The dose is from five to seven grains repeated from four to six times a day. Phenacetine may also be used hypodermically.

Iron and arsenious acid favor the transformation of food into blood and improve nutrition in the nervous centers.

Patients subject to neuralgia should eat food easily digested and assimilated and which contains iron, phosphorus or whatever substance is deficient.

Malarial and syphilitic neuralgia require specific treatment. In neuralgia of malarial origin, the sulph. of quinine is indicated and should be given in large doses and repeated until the pain is relieved, when prophylactic doses may be continued for some length of time.

In syphilitic neuralgia, the biniodide of mercury is a specific. The iodide of potassium also affords relief by antagonizing the syphilitic poison.

Reflex neuralgias may be controlled by the sedative action of cocaine, over the central nervous system, administered internally.

There are various preparations made by the manufacturing pharmacists for internal use. One of these, a cordial prepared by Parke, Davis & Co., contains 60 grains of coca leaves to the ounce and the dose is from two to four fluid drams. This cordial represents the drug in a palatable form, commending it especially for the large class of persons of delicate nervous organizations. In small doses cocaine is a cerebral stimulant, it increases the pulse and respiration and raises the body temperature.

Phosphorus is a nutrient to the nervous system and in all cases of chronic nerve exhaustion it is of great value. As neuralgia is an expression of exhausted nerve power and lowered vitality, the oleum phosphoratum, containing one per cent., may be given in doses of from one to two minims, or in officinal pills, one one-hundredth of a grain each. In centric tic the drug has given very decided relief.

In the young cod liver oil is indispensable. It is easily digested and readily assimilated, a medicine which improves nutrition and supplies deficiencies of the blood.

In all cases of neuralgia hyper-nutrition is the best treatment. It should be the first and the last. Exposure and exhaustion either mental or physical, must be avoided.

There is nothing better for a man than that he should eat and drink and that he should make his soul enjoy good in his labor.

In prescribing the products of Manufacturing Pharmacists, we should be guided to a great extent by the business standing of the manufacturers. No other house in the South or West has a better reputation for strict integrity than the firm of R. A. Robinson & Co., Louisville, Ky. We do not hesitate to recommend the preparations advertised by them on page ii, this issue.

Major Pelvic Troubles.

CERTAIN CAUSES TRACEABLE TO MINOR GYNECOLOGY.

BY JOSEPH PRICE, M. D.

[Read September 4, 1890.]

With the present popular cry of "conservatism," in reference to operation in cases where it is held that all treatment should be tried previous to real surgical interference, it is worth while asking whether this preliminary treatment should not itself be abandoned in the hands of those who plead most patheticalⁱy for it. Their cry is not a scientific plea, but in most instances a *personal bid* for indulgence while they try to accomplish something, without acknowledgiug on the one hand that there is little or nothing to encourage them in their work, so far as results are concerned; and on the other, that there are abundant proofs from the cases that have come out from under their hands, with one treatment or another, that manifold really major surgical affections arise merely from treatment recognized as orthodox from the standpoint of minor gynecology. So far as my own experience is concerned, I do not hesitate to put minor gynecology in a causal relation with a vast amount of the necessary major pelvic surgery coming under my attention.

First among these causes may be mentioned the Emmett cervical operation. Like many other surgical operations, this, when first explained by its distinguished originator, was done in season and out, by everyone, without the least consideration of its contra-indications. Very many minor tears of the cervix, in which a cosmetic effect only is obtained by operation, are made distinctly worse by operative interference. In many cases the pain becomes insufferable, from the lighting up of a dormant or unrecognized pelvic trouble, and operation is required to undo the mischief of an unnecessary cervical closure. This fact has been recognized by Emmett himself, and he has counselled the careful selection of cases in order to escape these disastrous results. It should be set down that where there is pre-existing pelvic disease, even though slight, no cervical operation ought to be tried unless absolutely required by the condition of the patient. Another operation which has met with much approval in many directions, and which some measures of success seems to follow in some cases, is the forcible dilatation of the cervix. It is feared that where there is antecedent inflammation of the pelvic viscera, that is of the genito-urinary system, such an operation as surgical dilatation of the cervix cannot be free from danger. In order to relieve dysmenorrhœa by this procedure, it must evidently be due to stenosis of the os or cervix. The question here arises, can it be told, in dysmenorrhœa, wherein its causes lie? Sometimes, but not infallibly. The fact is, that in many women where a stenosis would be diagnosticated, there is no difficulty whatever attending the menstrual flux. This being the case, it is evident that a diagnosis cannot be made by simple observation without a careful study of all the symptoms. Again, in many women the causes for this condition are complex. It will not do to lose sight of this, and conclude that because a flexion exists dilatation will remedy menstrual pain. It is to be remembered that if there is co-existing pelvic inflammation, dilatation will increase it, and, under certain conditions, cause it if absent. Rapid dilatation of the cervix is a distinct traumatism, and along with it run all the dangers incident to septic absorption that attend any other violent procedure, and where traumatism incident to natural causes is confessed to be the cause of so much subsequent mischief, it ought not to be *expected that operative injury can be harmless*. This conclusion, reached inferentially, has been abundantly confirmed practically on the operative table by much of my later pelvic work. In a number of cases with a history of preceding dilatation, the after-operation has exhibited an inflammatory condition of affairs as complicated as any other in my experience. Some of the dilatations were done with pre-existing disease, which was made worse by this interference, while others were done simply to relieve the dysmenorrhœa, and resulted in the establishment of a complicated surgical disease in which operation was *necessary purely to save*

life. All in all, I believe that, judged simply by its remoter effects, the operation of rapid dilatation is a dangerous one, *and results oftener in subsequent harm than in lasting good.* The surgical injury to the cervix is, in many of these cases, more pronounced than the tears of the cervix which it is the intention to remedy by Emmett's operation. In this case there is operation at each horn of the dilemma, and the results are often equally bad at both. Simple closure of the cervix in cases of pelvic disorder, almost certainly exacerbate the symptoms. The necessary inflammatory action set up in the suture tract, is transferred along the lymphatic or venous channels to the seat of the earlier inflammation, this is lighted up anew, and goes on in its development until a pelvic peritonitis is kindled or rekindled, which at last entails a major operation. The minor gynecologist, as such, who has no regard for or appreciation of the relation of the commonly advocated general closure of perineal and cervical tears to major surgical complications, cannot but be a great factor in the causation of the same. In Pepper's System of Medicine, vol. iv., there is on record a case in which the operator hoped to cure a pelvic inflammation by the derivative effect of a perineal or cervical operation. Needless to say, pelvic operation was afterward done. Such a cure is no less ridiculous than the so-called "faith" cure, and is certainly more *actively* harmful.

That the inconsiderate use of the uterine sound has been responsible for much inflammatory pelvic trouble, is scarcely to be disputed. This is not because the sound is of itself a dangerous instrument, but because it is put into the hands of every tyro, as an instrument of diagnosis. If used at all, it should be in the hands of those with whom its application, by reason of their skill, will be exceptional, not usual, and the rule should be, that in the hands of the non-expert it should be forbidden. The more expert and experienced the specialist, the more rarely will the instrument be required. My own rule is, that in cases in which it might at first seem indicated, a little patience and diligence will obviate the necessity of employing it. The indiscriminate use of the sound and electrode, is the most serious mechanical objection to the employment of electricity. Every sitting for the electrical treatment is prefaced by the use of the sound, and followed necessarily by the introduction of an electrode of some form. This is by a class of men who, in the main, have had no *previous gynecological training or education* whatever. In such hands such methods can only be harmful, and we are now reaping the fruits of their work in a class of pelvic operations not surpassed in the complications presented. Along with the sound may be placed the curette in the same category. Dilatation, with curetting of the uterus, have placed to their credit a long *series of major operations.*

Another class of cases coming under this head are those in which there has been a long time during which intra-uterine applications have been made. All the caustics in the catalogue have at one time or another been in favor, as cure-alls, in intra-uterine therapeutics. Nitric acid, chromic acid, nitrate of silver, and the rest. For a woman to have undergone a routine treatment with this list, and to have escaped pelvic inflammatory trouble, is little short of a miracle. A careful inquiry into many of these cases coming under my care directly and indirectly, reveals the history that all sorts of minor procedures were tried, only to fail and apparently hasten the necessity for operation.

Insanity as a Symptom of "Bright's Disease."

ADDRESS IN MENTAL DISORDERS.

Extract from the Proceedings of the Medical Society of the State of Pennsylvania, June 10, 1890.

BY ALICE BENNETT, M. D., PH. D., OF NORRISTOWN, PA.

(Continued.)

In cases of Bright's disease with sudden invasion of melancholia, there is one feature so constant that I have come to regard it as diagnostic: it is the sense of impending danger,

the overwhelming fear of some threatening calamity, which inspires the one irresistible impulse to "get away" which dominates the individual for the time, and under the influence of which he often jumps out of the nearest window. (See cases 55, 58, 47, and others.)

To prevent insanity by recognition and treatment of the conditions leading to it will be our aim; frequently, however, so insidious is Bright's disease, and so unwilling are people generally to appear to make much of their little ailments, which would be such valuable indicators if revealed, that we know nothing of the state of affairs until some catastrophe has taken place. Even then it is worth much to be able to say why it has occurred, and even in unpromising cases gratifying results sometimes follow prompt treatment in the lines indicated, but prognosis must always be guarded.

I think that I can serve you best by presenting some clinical notes of cases with comments; but before going on to speak of my own experience, I will ask you to look at the literature of the subject.

Books on diseases of the kidney say almost nothing of the effects of retained nitrogenous waste products upon the nervous system, except convulsions and coma, generally preceding death.

From all the works on insanity accessible to me, I have gathered everything bearing on this subject that I could find.

From Bucknill and Tuke:* "The kidneys are remarkably free from disease in all forms of insanity. We have met with three cases of Bright's disease among the insane, and we have found the experience of others of a similar nature." They quote, with evident surprise, Howden, who had admitted twelve cases of albuminuria in three years, and who, in 235 post-mortem examinations, had found kidney disease in 86.

They admit two genuine cases of "insanity coexistent with the waxy form of Bright's disease," mentioned by Dr. Wright, in the "Report of the Royal Edinburgh Asylum," for 1871, and speak also of a similar case recorded by Dr. Wilkes in the *Journal of Mental Science*, for 1869.

* Psychological Medicine.

In connection with gout, Bucknill and Tuke say: "Outside the walls of asylums cases are frequently met with which are marked by unfounded dread, especially on awaking in the morning, in which there is a gouty diathesis, and suspicion is aroused that there is a casual relation between the bodily condition and the mental anguish. This suspicion is confirmed by the marked success of treatment founded upon this supposition."

Schrœder Van der Kolk, under "Sympathetic Insanity," records two cases of insanity accompanying vesical catarrh, of which one recovered; in the other an affection of the kidneys supervened, and the patient died."

Sankey found adhesion of the capsule of the kidney in one-half his cases post-mortem, and, "in a large number, other evidences of disease, as atrophy of the cortex, fatty degeneration, waxy disease, etc." This author does not seem to have made any study of the kidneys during life. The presence of kidney changes post-mortem he regards as "evidence that the blood has been impure" (emphasized by him as the first step in the production of "ordinary insanity," as quoted above); nevertheless, he concludes by saying: "I do not consider the true pathology of insanity to have any necessary relation to kidney disease."

Gowers calls attention to organic changes (as apoplexy), which may ensue from atheroma of the arteries in advanced Bright's disease.

Griesinger* says: "Bright's disease to which any etiological relation to insanity could be attributed is very rare indeed." One would much like the complete clinical record of a case like his No. 12, of which the following is a condensed abstract: "Delirium occurring in second pregnancy, formication and smarting over whole surface, a general sense of ill-being, sleeplessness, ringing in ears, vertigo, pulse hard, slight cardiac hypertrophy, recovered, and relapsed in the following year."

Or his No. 8: "Man, hepatitis in the beginning, variable temper, pain in lumbar region, burning in urethra and bladder, at times had gravel, died in a few months."

Blandford speaks of a variety of melancholia "usually ascribed to dyspepsia or dis-

* Clinical Lectures on Mental Diseases, London, 1883

order of the stomach and liver." He has also noticed that "melancholia often comes on, as a precursor of death, at the close of other diseases."

In Clouston's* very interesting work I find more bearing upon this subject than in any other I have read, although I cannot always agree with this author in his interpretation of facts. For example, his two cases of diabetic insanity, which have been extensively quoted in other text books. In Case No. 2, a man, who died after melancholia of two years' duration, with delusions of persecution, the diagnosis rested entirely upon one examination of the urine made near the close of life; no symptom had led to the suspicion of diabetes, and there was no post-mortem examination.

That some amount of sugar in the urine is frequently associated with chronic Bright's disease is well known; and I have twice met the condition noted in my Case 6, where, shortly before death, sugar appeared in large quantities in the urine, from which it had previously been absent.

His Case No. 1 was a "woman, aged 59, agitated melancholia; toward the end, sleepy all the time; urine never very copious; ordinary treatment of diabetes of no avail."

Clouston recognizes a "variety of mental derangement, half delirium and half mania, which results from uræmic poisoning, which he names the "insanity of Bright's disease." . . . "Usually occurring in chronic cases with contracted kidneys, where there has been enlargement of the heart and a tendency to dropsy for some time," and he gives one illustrative case.

He has also noticed in such cases "mania of a delirious character, with extreme restlessness, with remissions, attended with great prostration" (the equivalent of the "grave delirium" of some authors, of which I shall want to speak again.)

I was especially interested in Dr. Clouston's studies of melancholia, which is the one form of insanity I so constantly find associated with defective kidneys. He considers it under eight heads, as follows:

1. Simple melancholia.
2. Hypochondriacal melancholia.
3. Delusional melancholia.
4. Excited or motor melancholia.
5. Resistive melancholia.
6. Epileptiform melancholia.
7. Organic melancholia.
8. Suicidal and homicidal melancholia.

These divisions are convenient, but it is needless to say that (excluding "organic," which seems to me out of place here) they are descriptive of mental states, rather than varieties of disease; often transitory, passing one into the other in the same case. Etiologically, I would consider them all as one, including also stuporous melancholia, which Clouston considers under the separate general head "stupor." Of the "motor" and "epileptiform" varieties, he remarks that they are "specially liable to skin irritations, itchings, boils," etc.

The treatment that this author has found of most value in melancholia is, to me, significant: milk is his "sheet-anchor;" farinaceous and fatty foods; an abundance of fresh air; baths, and especially Turkish baths, of which he says: "I have seen many chronic, incurable cases of melancholia improved by a course of Turkish baths."

In our own country there have been some special contributions:

In 203 autopsies at the Government Hospital for the Insane at Washington, D. C., about one-sixth of the kidneys "presented alterations sufficient to constitute disease."

Prof. William Osler reported to the Philadelphia Neurological Society, in 1888, three cases of insanity associated with "Bright's disease:"

Case 1. Man, aged forty-two, known to be the subject of "Bright's disease;" after three or four days of violent mania, died in a comatose condition.

Case 2. Man, the subject of interstitial nephritis, admitted to the University Hospital in a semi-stuporous condition; had previously been maniacal, and had delusions of persecution; committed suicide by jumping from an upper window.

Case 3. A man, with chronic "Bright's disease," who for a time refused food, under the influence of delusions of persecutions; afterward improved.

* Mental Pathology and Therapeutics.

Dr. L. Bremer, of St. Louis, in a paper read before the State Medical Society of Missouri, in April, 1888, details seven cases that have come under his observation:

Case 1. Unmarried woman, thirty-eight; rheumatism and chorea at fourteen; albuminuria, following fall into cold water, of four years' duration; a second exposure followed by scanty secretion of urine, insomnia, irritability, mania of two days' duration, followed by melancholia with self-condemnatory delusions; attempted suicide on the ninth day, resulting in excessive hemorrhage, followed by sleep and rapid recovery. The urine contained albumin, hyaline and epithelial casts, pus, and blood corpuscles, disappearing with complete restoration to health.

Case 2. Man, a drinker; acute rheumatism, with fever, tremors, spastic state of muscles, delirious insanity marked by intense restlessness and vivid hallucinations; urine contained enormous amount of albumin, hyaline and blood casts, which almost disappeared during a remission of three weeks, when mind was clear, and again increased with a relapse which ended in coma and death eight weeks from the inception of the disease. No post-mortem examination.

Case 3. Woman, forty-eight; injury to head in childhood; puerperal mania at thirty-four; six years later, rheumatism with intense insomnia, preceded a melancholia of several months' duration. Last attack followed prolonged exposure in a railroad accident; active delirium, with menacing hallucinations, coma, death one month from beginning of the attack. Albumin, epithelial and hyaline casts in urine.

Case 4. Woman, fifty-five; sciatica for ten years; an exceptionally severe attack, followed by mental confusion, quickly passing into coma and death. Urine contained epithelial and blood casts, and pus corpuscles.

Dr. Bremer's cases 5, 6 and 7, are somewhat complicated, and I pass over them here.

Dr. E. A. Christian, of the East Michigan Asylum reports* 37 out of 2,600 cases of insanity admitted to that hospital, "in which the appearance of grave disturbances of nutrition had been coincident with albumin and tube-casts in the urine; in only about a dozen could it be said that the mental manifestations were not dependent upon, or modified to some extent by, the renal disease." Of these cases he makes two divisions: 1, the "uro-toxic;" 2, the "vascular." I give condensed abstracts of his five cases illustrating the first class, which he considers much less common than the second. In this my experience is widely at variance with Dr. Christian's.)

Case 1. Woman thirty-four; convulsions, followed by insanity, at a miscarriage three years before. A second attack, also puerperal, two years later. Third and last attack, also puerperal; "grave dyspeptic disorders and failing vision" in interim. Mostly "confused and restless; a low muttering delirium. Died semi-comatose, in the third month of attack. Urine contained albumin, waxy casts, and debris. No autopsy.

Case 2. A year of dyspeptic troubles, headaches, frequent vomiting, eczema, etc., was followed successively, by delusions of suspicion, hallucinations of sight and hearing, low delirium, and, near the close, intense excitability of the motor centres, with spasms of all the voluntary muscles. Albumin, hyaline, and granular casts in the urine. Death in four months. No autopsy.

Case 3. Male, eighty-one; restless, and irritable for eighteen months. Extravagant ideas, followed by delusions of fear, merging into general mental confusion; coma of five days, death. Albumin and casts in the urine.

Case 4. Male, forty-five; sequence of symptoms as follows: Peculiar and forgetful; confused; hypochondriacal; suspicious; religious delusions. Died, semi-comatose, in four months. No autopsy. Albumin and casts in urine.

Case 5. Woman, fifty-seven; a fever of some sort, followed by causeless worrying, profound depression, delusions of suspicion, œdema; albumin and casts in urine, asthenic; paroxysmal, asthmatic seizures, with cough; died of pleuritic effusion, more than two years from the beginning of insanity.

While I do not agree with the last-named writer as to the preponderance of the "vascular" over the "uro-toxic" cases, I freely concede the frequency and importance of the former class, among which belong many of

*Journal of American Medical Association, March, 1889.

our early apoplexies. I want to say, also, in passing, that the relation between paresis and "Bright's disease seems to me to require further investigation; we know that many cases of paresis are associated with kidney disease, and I have seen cases, beginning as melancholia with uræmia, pass into a condition similar to, if not identical with, paresis.

The cases which I present are all taken from the records of the Department for Women of the Norristown Hospital for the Insane. They are divided into clinical groups, and are condensed as much as possible.

First group.—Cases (12) rapidly fatal (twelve days to three months.) I am persuaded that to this class belong many of the cases variously designated as "typho-mania," "grave delirium," etc., by different writers. Nothing more distressing, nothing more hopeless of even amelioration, can come either to the general practitioner or the specialist. Their characteristic features are intense motor excitement, with rapid physical prostration, a condition graphically described by Spitzka, as follows: "Insomnia and inability to think, increased irritability, and a sense of impending misfortune precede the outbreak, which is often so sudden as to suggest the fulminating type of typhus, or of epidemic meningitis.

There is wild, aggressive delirium—a panphobia—the patient jumps out of the window, beats the plaster from the walls, eats bedding, and clutches at his attendant with the frenzy of despair; may sing, whistle, yell, and tear off clothing continuously for days. One patient kept plunging his head against the ceiling until beaten to a jelly. Another rubbed his thumb against his teeth until it hung by a thread." Dr. Spitzka concludes, since "all the pathological changes of the brain noted post-mortem are only collateral results of disturbed circulation, and throw no direct light on the essential pathology of 'grave delirium,'" that we must infer the "formation of a toxic agent in the nerve-centres themselves."

Case 1. ———, aged forty-two, American, married but deserted by husband; general health said to have been poor during her married life; had been "a little unlike herself" for the preceding five or six months. One week before admission to the hospital became actively insane, with extreme restlessness and increasing bodily depression. On admission showed most intense motor excitement, which was almost incessant for one week. This was followed by a week of great physical prostration in bed, ending in death on the fourteenth day, three weeks from the beginning of the attack. At times, during the last week, mind was quite clear. A few days before death a double pneumonia developed which hastened the fatal issue. Urine contained albunin and hyaline casts on admission. Autopsy showed the large mottled kidneys of chronic, diffuse nephritis. Heart flabby, hypertrophied, and dilated. Liver enlarged. Lungs, red hepatization, except at apices.

Case 2. ——, aged 22, American, married, mother of three healthy children; paternal uncle insane; showed slight peculiarities for preceding year; apt to complain of "pain across back," but was not considered sick until ten days before admission, when violent insanity developed suddenly, during the night; was kept in bed by mechanical measures, and was brought to the hospital bound to a stretcher a distance of sixty miles. On admission she was in a semi-comatose condition; action of heart extremely feeble; urine loaded with granular and waxy casts and blood discs. She lived six days in this condition. Autopsy—Heart, organized clots in all cavities; aortic insufficiency. Kidneys normal size, cortex thin and very fatty; one hemorrhagic infarct size of marble. Liver "nutmeg" on section.

Case 3. ——, aged twenty-nine, single, of Irish parentage, good family history. Reported good health up to three weeks before admission, when she became melancholy, with the delusion that the neighbors were defaming her character; persistently suicidal. On admission urine contained albumin, hyaline and granular casts; action of heart feeble. Death occurred after thirty-three days (in eighth week of attack), during which she was the subject of intense motor excitement with agonizing apprehensions. Once repeated rapidly for hours, in most piercing screams, "O God! where is my brother?" Fed with tube. No autopsy.

Case 4. ——, aged thirty-nine, of German

extraction, wife of intemperate saloon-keeper, patient said to have drank beer in moderation; mother of eight children, three miscarriages during the preceding year, said to have been artificially induced; domestic relations unhappy and general health not good for a year. Insanity developed suddenly, three weeks before admission, in the form of melancholia with suicidal and homicidal impulses; asked her friends "to put her in the asylum because she could not trust herself." On admission appeared well and continued sensible, cheerful, and industrious for three weeks; gave a clear history of her attack, and soon evinced a natural desire to go home and take her place in her family. One examination of the urine at this time gave negative results. Heart enlarged, with mitral systolic murmur. On twenty-second day she became melancholy; quiet, with tendency to stupor, but made several attempts to choke an unoffending fellow-patient; increasing mental dullness with rapid physical wasting for one week. On the eighth and ninth days (of this attack) showed extreme restlessness; would throw herself about the floor, beat the walls, scream, etc.; tenth day in bed; died on morning of eleventh day. A second examination of the urine made during this attack also gave negative results. Autopsy — Venous congestion everywhere marked; heart hypertrophied, with mitral leak; kidneys large, capsule thickened and removed with difficulty from a roughly granular surface; cortex, on section, showed extensive fatty change; liver also showed fatty changes in a few places.

This case is interesting as showing the remission which is so frequently seen in the mental, as in other manifestations of "Bright's disease," and also as illustrating the necessity for repeated examinations of the urine.

Asthma.

BY E. S. M'KEE, M. D., CINCINNATI.

OCCURRENCE.—Moncorvo shows how fallacious is the old belief that children possess an immunity from asthma. It is found in all classes, all ages, and almost all countries.

PATHOLOGY.—Cameron (2) believes that the primary spasms of the bronchial muscles leads to a subsequent temporary paralysis, by which the increased demand on the external muscles and the dyspnœa was prolonged. He supposed that in health the involuntary muscles of the bronchial tubes were actively concerned in respiration; that they were probably muscles of expiration, and that spasm of the bronchial muscles in asthma rendered them, for a time, incapable of performing their functions. The consequent unusual demand on the external muscles of respiration manifested itself in an intense dysmenorrhœa.

ÆTIOLOGY. — Da Costa (3) presented to the class in a clinical lecture, the case of a boy who was picked up in the street suffering from a severe attack of spasmodic asthma, induced by swallowing a piece of apple which he was eating, when he suffered an epileptic attack. This went down into the broncus, caused serious trouble till finally expelled by a fit of coughing.

Robinson (26) reports cases which show a very evident causative influence of malarial poisoning in producing bronchial irritation and asthma. In some of the cases the ordinary means failed entirely. Quinine and Warburg's extract caused immediate improvement.

Knight (4) reports an interesting case: A lady, aged 28, in which the asthma was caused by a foreign body—a bean, which gained access at the age of six years. Tracheotomy was performed, but the foreign body was not expelled then—but in a violent fit of coughing three days later. She had a severe cough during the winter, which was soon attended by asthma, to which she has been subject ever since.

Bosworth (16) refers again to the statistics of his eighty cases quoted last year, in view of the results of treatment, he thinks that it may be fairly claimed that of the three elements which enter into the causation of asthma, viz., a neurotic habit, the nasal disease and atmospheric conditions, the nasal disorder far outweighs in importance not only the nervous but all other elements of causation.

Schmidtborn (6) comes to the conclusion

that the nature of the nervous asthma is a reflected cramp of the pulmonary arteries.

Van Walzch (7) reports a case which illustrates in the most marked degree, to what extent indigestible foods, acidity and fermentation, distention of the stomach and bowels with gases, and the absorption of morbid material by the blood, may cause prolonged and terrible asthma in one predisposed thereto. The reporter thought derangements of digestion a very frequent factor in the causation of asthma.

Pawinski (8) reports on asthma caused by aceton in the urine. It is known that aceton is linked to an increased decomposition of the tissues may be produced by conditions in which so disastrous a breaking up of the tissue is not apparent, and might therefore be overlooked, and that the accumulation of this substance in large amounts acts as a profound poison to the central nervous system. Systematic examination of the urine in cases of asthma may lead to the selection of many conditions not now recognized as predisposing causes of asthma. Hence, if we will profit by the lesson taught by this case, we will not neglect the examination of the urine in each case when the ætiology is at all obscure.

Berkart (9) puts forward a theory—a further development of curschme thesis. In his opinion asthma is due to a progressive inflammatory process affecting the air passages, starting from the pharynx, and spreads rapidly upward to the nose and eyes, whereas its downward extension is, for a time at least, arrested by the larynx, just as erysipelas is arrested by a projecting fold of skin. Resistence is, however, subsequently overcome, and the air passages are subsequently invaded. Gradually, also, the tissues are structurally altered, and then reactions differ. The serofibrinous exudation becomes more and more fibrinous, when such is wont to occur; and the consequent mechanical interference with respiratory function now constitutes the most striking of all its symptoms. The causative agent of the progressive inflammation, Dr. Berkart is inclined to see, in a streptococcus which he has invariably found in the expectoration. This is associated with Curschman's spirals, and more abundantly present in recent than in old specimens. He thinks this species of streptococcus is nearly allied to, if not identical with the streptococcus erysipelatos. The author does not believe in the pollen theory of the origin of hay fever, claiming that were this true why does the disease commence invariably in the pharynx, as he believes is the case, and not in the eyes or nose, the parts with which the irritating body first comes in contact. The symptoms of hay fever are, he considers, those of a progressive form of inflammation commencing in the pharynx.

Peyer (4) discusses at length, and reports in extenso sixteen cases of asthma sexuals. Eleven of these were males, of which nine suffered from spermatorrhœa. This spermatorrhœ was in most cases accompanied by functional anomalies, of which the most frequent were nocturnal pollutions and impotence, or at least a reduced potence. In two cases temporary aspermatism. Five cases which occurred in females consisted of one fibroid of the uterus, one vaginal and cervical catarrh, with hyperæsthesia of the introitus vagina in consequence of masturbation; one leucorrhœa; one enlargement and induration of the uterus, with catarrh following the menopause; one chronic endometritis. Of the eleven male patients seven were very strong, well built men, while four were slim and slender. In only two cases was he able to discover family history of neurosis, which was traced to the mother's side. Among the females a nervous, hereditary tendency could only be discovered in four cases. In about all the males there was present, besides the asthma, that row of nervous symptoms which we call sexual neurasthenia. This was almost, without exception, caused by sexual abuse. On the contrary, all of the patients suffered more or less from hysterical or nervous symptoms, which, like the asthma, depended on the uterine trouble. In ten patients there was a more or less high grade of emphysema, but as a rule cannot be of very great inconvenience. The patients could walk, climb, make difficult field manoeuvers, &c. They only suffered slightly from frequent catarrh of the respiratory tract. In some of the patients the sexual act was followed with such regularity by asthma

that the connection was quite clear. The author thinks it important that we should know that one of the principal excitants of asthma, both by men and women, is the genital system. We should learn if our patients have suffered from congenital nocturnal incontinence of urine; if in youth sexual abuse of any kind had been practiced, or if venereal diseases had been contracted. The menses, their duration and amount; the molimen, fluor albus and pain in the lumbar region must be inquired after. If by questioning a leader is gained, then a sexual examination is asked for, and often we can exclude other causes and chagnon asthma sexual. This sort of asthma is naturally not so stubborn as many other kinds.

Peyer claims that asthma is always neurotic. In two young married women coitus caused violent attacks of asthmatic sneezing. In another case the patient suffered from uterine fibroid, with severe asthma, which disappeared after the removal of the tumor. Another was subject to violent asthmatic fits on becoming pregnant for the first time—the asthma was cured. Another suffered from chronic metritis. The cure of the uterine affection relieved the asthma. In all of the cases reported the patients were more or less hysterical, and in two there was a distinct family history of neuroses. We must be careful to distinguish between the possible coincidence of true asthma and disease of the sexual functions and the alleged form, where the former is the effect of the latter. In coincidence it is easy to understand that any aggravation of uterine or ovarian disease, and any irritation of the sexual functions, might aggravate the asthma.

TREATMENT.—Traucher (12) recommends in the treatment of asthma in children three doses, 5 to 7 grains of quinine, given at intervals of ten minutes, 5 or 6 hours before the paroxysm.

Woodbury (13) recommends continual solution of nitro-glycerine, in from 2 to 5 drop doses, when there is not much emphyreme, and the heart is sound. Between the attacks, quinine, arsenic, or cod liver oil.

The editors of the Canada *Lancet* think that of the remedies which have recently forced themselves into the foreground, citrate of caffeine perhaps stand first. The dose recommended is 1-5 grain dissolved in warm water. The relief afforded is said to be very prompt. Arsenic, probably on account of its peculiar property of supporting respiration in making ascents, seems to produce striking cures in appropriate cases. Cocaine 1/6 grain, in form of tablets, is highly recommended for the relief of the spasm. Grendelia robusteo has lost its popularity. Quebracho is a remedy in much repute. And if the flow from the mucous surfaces is very great 15 drop doses of tincture belladonna every 4 hours, are very good. If much bronchial tumefaction and dryness is present, 1/4 grain pilocarpine, with 1/4 grain morphine, hypodermically gives prompt relief.

Albutt (15) has found good results from Davas Platz Switzerland, and from the use of hyoscyamine,arsenic and strychnine, digitaline and aconitine, after the dosidmetric system.

Poulet (16) has found axatic acid a remedy of great importance in asthma and dyspnœa. If this is administered early it is a remedy most sure. It prevents the crisis when we have recourse to its use some hours before the invasion. It is not less useful when the attack is imminent, or already commenced. The medicine is a very faithful anti-dyspnœal remedy, at a price insignificant. He gives oxalic acid ʒss., lye auronto cont. ʒii., infusia-tea ʒvi., tablespoonful every hour till relieved.

Tamphear (17) says the great principle in the prevention of attacks is that the patient should retire with gastric digestion quite complete, and thus preclude any pressure upwards against the diaphragm from flatulent accumulations in the stomach. When there is dyspepsia present, and especially when flatulence occurs after meals, it is advisable to omit sugar, starch and potatoes as much as possible.

Nunes (18) claims that the tincture of lobelia should not be used in asthma, as alcohol extracts the emetive principle. The alkaloid lobæline antagonizes the spasm without either causing nausea or vomiting. The dose varies from 3/4 to 6 grains, and is pushed according to the symptoms. It can also be employed hypodermically. In Nunes' cases he seems to

have obtained excellent results from lobeline in the treatment of spasmodic asthma and bronchitic dyspnœa. His cases appear permanently relieved many months after taking the lobeline. If the temporary good which has hitherto been gotten from lobelia in asthma can be had through the new alkaloid without nausea, vomiting or depression, it will prove a boon to suffering humanity.

Berkart (6) places the greatest reliance on the subcutaneous injection of morphine, which induces speedy relief, probably by relieving the bronchial tenesmus. In chronic cases he attaches most importance to rest. Iodide of potassium he praises moderately, but highly commends jaborandi or its alkaloid, pilocarpine. In hay asthma, and in asthma when the acute attacks begin with sneezing and a burning sensation at the back of the soft palate, he recommends the use of a gargle, or spray of borax, in concentrated solution, with a few drops of liquor hydrarg. per chloridi. Quinine in 15 grain doses is favorably commented upon.

Illingworth, (19) acting on the view that the disease is due to central venous congestion, he gives remedies, firstly, to stimulate the heart; secondly, to prevent congestion of the blood, and thirdly, to contract the central and dilate the peripheral blood vessels. The two first indications are met by the carbonate and acetate of ammoniæ, and the iodides and nitrates of potash and soda; also by alcoholic stimulants, and the third by belladonna.

Jares (20) found inhalations of a 20 oz. solution of menthol in oleum olivæ relieved as if by magic a very stubborn case.

Duenas (21) concludes that antipyrin is a drug of extraordinary value in asthma at first; but like all other remedies it soon loses its power. It has no effect in diminishing the frequency of the attacks. He had found that occasionally it did harm by increasing the severity of subsequent attacks; especially was this true in a case of asthma with bronchitis.

Zipp, (22) in cases where the cause of the attack is suspected to be in the nose, recommends widening of the nasal air passages. He introduces Hegar's bougies with ease, dispensing with narcosis or assistance.

Gruenert (23) describes a chair for the treatment of asthma, so constructed by means of levers and bands to exert pressure and traction on the thorax, while by means of a broad band the intra-abdominal pressure is increased. The ultimate effect, according to the author, is to render forced expiration possible, to considerably decrease the volume of the thorax, and to more completely empty the hitherto badly aerated alveoli, so that at the next inspiration more oxygen enters, and very soon the dyspnœa diminishes. The cases reported went to show that in many instances the respiration chair might prove an advantageous method of treatment.

Scott (24) has found paraldeyde in half-drachm doses a very valuable remedy in cutting short the paroxysms of asthma. He finds it acts better if combined with other remedies.

Peyer (11) finds that the treatment of sexual asthma depends upon its origin. The physician should not forget through false prudery to draw attention to the bad results of onanism and coitus imperfectus In one case reported by Peyer, pollutions and asthma were not improved by local treatment, because the patient continued to practice the coitus reservatus. After the cessation of this custom the jollubous and asthma disappeared under regular evening applications of clystus. Those ætiological factors of sexual asthma urithritis jostmar, as well as spermatorrhœa, impotence and temporary. A spermatismus must in the rule receive local treatment.

Davis (21) occasionally found in women who are persistently troubled with asthma during pregnancy, though free from it at other times, most marked benefit obtained by the persistent use of viburnum prunifolium. This drug lessens the irritability of the uterine tissues, and thus diminishes the asthma.

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(15) Dasimetric Med. Review, March, 1889.

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(7) Van Valsal—Med. News, May 11, 1889.

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(21) Duenas—Revista de Ciencias Medicas, Habana, Oct. 1888. Brit. Med. Journal, April 20, 1889. Lond. Med. Recorder, March 20, 1889.

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(1) Moncorvo—Rev. Mens. des Mal de l'Enf. January 18-9. Arch. Pedriatics, June, 1889.

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(19) Illingworth—Med. Press and Circular, July 24, 1889.

(25) Davis—Journal Amer. Med. Ass., May 25, 1889.

(24) Scott—Times and Register, Aug. 10, 1889.

(20) Jares—Journal Amer. Med. Ass., May 25, 1889. Therapeutiche Monatshefte, April, 1889.

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(2) Robinson—Phila. Med. News, Aug. 31, 1889.

Little Things we have Noticed Lately.

Menthol dissolved in vaseline, five grains to the ounce can be sprayed into the throat and forced thence into the ear by Valsalva's method. This is a very neat and simple way of applying a medicament to the lining of the eustachian tube and when the tympanic cavity is inflated in this manner the result is more marked and more permanent than when inflation without spraying is practiced.

The above spray will relieve the irritation of chronic asthma when other remedies fail to give satisfactory results.

Nothing is much more disagreeable the moment it is applied to the nasal mucous membrane or much pleasanter five minutes later, than a solution of iodoform in ether, one-half drachm to the ounce.

Chronic inflammation of the mucous membrane of the naso-pharynx which persists in spite of detergent and astringent sprays and washes, is sometimes relieved by touching the surface here and there with a saturated solution of chromic acid.

Batteries sometimes fail to give satisfaction because the connecting wires break off inside the insulating cover and the connection is only made occasionally.

The following prescription has given great comfort to some of our patients suffering from piles of great tenderness, but of short duration and no marvelous magnitude:

R.	Plumbi iodidi	ʒij.
	Tr. iodini co.	℥xx.
	Pubo. galli	gr.xx.
	Ext. opii	gr.xx.
	Cacoae butter	ʒij.

Misce et ft. supposit. No. xx.

Apply one night and morning after replacing the hemorrhoids.

For infantile diarrhœa we have this summer adopted the following treatment in most cases and with happy results. Stop milk and all other food and give only Mellin's food or one of those akin to it. Give one of the following powders every hour till the stool becomes less offensive in odor and more natural in consistency:

R.	Salol	gr. j.
	Zinci sulphocarbolat	gr. ss.
M.		

W. D. B.

MENTHOL IN THE VOMITING OF PREGNANCY.—Menthol has been recommended (*Repertoire de Pharmacie*, February 10, 1890) in the treatment of the obstinate vomiting of pregnancy. One part of menthol should be dissolved in twenty parts of alcohol and thirty parts of simple syrup, one teaspoonful being given each hour. This prescription is claimed to be extremely successful in arresting nausea and vomiting.—*Therap. Gazette.*

DR. SHELDON gets the drop on the hay fever every year by visiting the mountain or lake regions, at the same time Mr. Hay, desires to call on him. He has practiced the usual deception this year and has returned to the city fresh and ready for the year's work.

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TOPEKA, KANSAS, NOVEMBER, 1890.

THE State Medical Society of Arkansas has established a Medical journal. This is a move in the right direction. The medical profession should not depend upon manufacturers for its periodical literature.

A monthly medical journal can be published for one year for about three times the cost of getting the transactions published in bound volume and it will contain three or four times as much other original matter from the physicians during the year. Coming monthly, the work of the Society will benefit others than members of the society. Three or four times the membership of the society will be reached and informed of the work being done in the State. Seeing what their neighbors are doing will stimulate them to action.

A bound volume of transactions is placed on the shelf and it is seldom read or referred too, but the physician who will refer to it will have the journal in which the transactions are published bound and it serves the same purpose. He has read it all or looked over it carefully, and several of his own articles appear in it, which lends interest to it for him. The pages of the journal are open to any physician in the State at any time to write a paper or report a case. Often cases of interest would be reported for the sake of State pride, the State would get the credit for it and the profession be benefited when otherwise it would be lost.

Medicine knows no State lines but medical men are human beings and the socialistic plan or throwing in their might in a general way does not bring out work from the mass of physicians. To elevate the profession each man in it must work for the common good. To do the best work and to bring out all that is in a man he must be directly interested in the work. The best citizen is loyal to his home, to his State, to his nation. This is a business principle also. He does not love his State less but his home more. His nation less but his State more. The metropolitan journal less but his State journal more. The physician who is interested in his home society, works for it and is a prime factor in its success. A number of such physicians in a community or city have a successful medical society. These same workers are found in the State and National Associations. They try, and do first build up home. They enlist as many in the work as they can. Suggestions looking to the advancement of the profession are put into execution, the good ones are retained and the failures discarded.

If a district society could afford to publish its own transactions in a neat monthly journal it would be a means of development above price to it. The profession would see the ability in that society, and soon it would prove its fitness to be a leader or a follower of the medical profession. It is work, systematic work, done and reported which attracts the attention of medical men and sets them to thinking and establishes a healthy rivalry, especially if the work is done near home.

THE next meeting of the South Kansas District Medical Society, will be held in Peabody November 19, 1890. A good attendance is expected. Among others Dr. S. S. Hall of Augusta, will read a paper on "Procidentia Uteri" with report of a case. Dr. W. C. Nolder of Newton, a paper on "Morphineism." The program could not be arranged in time for this issue of the JOURNAL, but the South Kansas will do herself credit.

Reprints Received.

"The use of Rhus Toxicodendron." By John Aulde, M. D., Philadelphia, Pa.

"On the Treatment of Eczema in Elderly People." L. Duncan Bulkley, A. M., M. D., New York.

"Vaginal Tamponage made Available as a Continuous Support." Chas. C. Fredigke, M. D., Chicago, Ill.

"Arsenite of Copper—The Results of Collective Investigation." By John Aulde, M.D., Philadelphia, Pa.

"The Nature of Eye Strain and its Relation to Headache and Other Nervous Disorders." F. C. Hotz, M. D., Chicago, Ill.

"Diagnosis and Operative Treatment of Gunshot Wounds of the Stomach and Intestines." N. Senn, M. D., Ph. D., Milwaukee, Wis.

First—"The Prevention of the Short Leg of Hip Disease." Second—"The After Treatment of Hip Disease. By A. B. Judson, M. D., New York. "The Pendent Limb in the Treatment of Joint Diseases of the Lower Extremity." By A. B. Judson, M. D., New York.

In a paper presented to the Mississippi Valley Medical Association at Louisville, Dr. Wm. T. Belfield of Chicago collects 133 case of operations upon the hypertrophied prostate including eight of his own, as follows:

Forty-one perineal incision, mortality 9 per cent.

Eighty-eight by supra-pubic cystotomy, mortality 16 per cent.

Four by combined perineal and supra-pubic incision, none fatal,

In 56 of these cases the essential facts before and after operation are furnished; they had been the subjects of cystitis and dependent upon the catheter for periods varying from one to ten years. In all the cystitis was cured; in 38 (two-thirds) voluntary urination was restored and continued during the time of observation, six months to two and one-half years; in eighteen this function was not recovered.

Fifteen of these 56 cases were complicated with stone; excluding these—since it might be objected that the cure resulted rather from the calculus extraction then from the prostatic operation—there remained 41 cases of uncomplicated prostate operations; of these 32 (four fifths) recovered the power of urination, in nine this ability was not recovered.

Three Double Births.

The wife of John Bean of Valley Falls, aged 65 years, gave birth to twins on Monday evening. Her daughter, Mrs. Stratton, who lives in a neighboring township, presented her husband with twins the same evening. Mrs. Stratton's daughter Eva was married a year ago and lives in Arrington. The friends of Mrs. Stratton and her mother were not yet through congratulating them over the interesting natal coincidence in their families when Mrs. Stratton received a letter from her son-in-law that her daughter had given birth to twins herself on Monday evening. The three double births occurred within ten minutes of each other.

Sad, Indeed.

Dr. Robert Bartholow, one of the world's greatest therapeutists, the secular press says has two marked delusions. He imagines he is under the surveilance of the police and the other the alienation of his wife's affections. On every other topic he appears to be rational. The trustees will declare his chair vacant on Monday, October 7.

Among the candidates spoken of as Dr. Bartholow's successor, are Dr. S. Solis Cohen, Dr. James C. Wilson, Dr. Henry Morris, Dr. T. J. Mays, and Dr. Samuel Potter, of San Francisco.

Dr. W. K. Harris of Mulvane, Kas., uses for dyspeptic vertigo:

Acidi nitrici	gtt 1 x.
Acidi muriatici	gtt. c.
Aqueæ camphoræ	f ℥ viij.

M. Sig. Shake. Take one tablespoonful in one-half cup of water thirty minutes before each meal.

Bee Sting for Rheumatism.

J. T. Shepherd of Osage City, Kas., says, he had been troubled with articular rheumatism since he came out of the army, until about four years ago when he began to keep bees. For the past two years he has been entirely free from the disease. He attributes the cure to the poison of the bee. He gets stung almost every day and sometimes fifteen to twenty times a day. The pain and swelling following the sting is not great but in about an hour afterwards it causes an intolerable itching of the whole limb.

(What is the poison of the bee?—ED.)

THIRTEENTH semi-annual session of the Northern Kansas Medical Society, will be held at the rooms of the Commercial Club, Seneca, Kansas, Thursday, November 13, 1890.

PROGRAMME.

"President's Address."
R. Hawkins, M. D., Marysville.
"Puerperal Convulsions."
M. A. Brawley, M. D., Frankfort.
"Modern Surgery."
A. J. Best, M. D., Centralia.
"Disease of Dorsal and Lumbar Vertebra, with Special Reference to Treatment of Psoas Abscess."
Jacob Geiger, M. D., St. Joseph, Mo.
"Standard Therapeutics."
N. Hayes, M. D., Seneca.
"Vaso-Motor Coryza."
Geo. C. Irwin, M. D., Sabetha.
"Glaucoma, as seen by the General Practitioner."
Grant Cullimore, M. D., Atchison.
"The Prevention of Shortening in Fracture of the Femur; Demonstrated with the use of Apparatus."
S. Murdock, M. D., Oneida.
"Report of an Interesting Case in Practice."
W. F. Richardson, M. D., Havensville.

Afternoon session begins promptly at 3 o'clock. Evening session at 7:30 o'clock.

R. HAWKINS, M. D,, Pres.
M. M WACHTER, M. D., Sec'y.

SUEING THE WRONG PARTY.—A young woman in Summit County, Ohio, was supposed to be suffering from an ovarian tumor, coming on it was alleged, as the result of a railroad accident. Her suit for damages was pending against the railroad company when an operation was deemed necessary. The surgeon was somewhat surprised on opening to discover a dead fœtus at full term. The railroad disclaims all responsibility for the tumor.—*Medical Record.*

THE thirteenth semi-annual session of the Northern Kansas Medical Society will be held in Seneca on Thursday, November 13. Among other things, the programme provides for the presentation of the following subjects: "Disease of Dorsal and Lumbar Vertebræ, with special reference to treatment of Psoas Abscess," Jacob Geiger, M. D., St. Joseph, Mo.; "Modern Surgery," A. J. Best, M. D., Centralia; "The Prevention of Shortening in Fracture of the Femnr," S. Murdock, M. D., Oneida; "Vaso-Motor Coryza," Geo. C. Irwin, M. D., Sabetha; "Glaucoma, as seen by the General Practitioner," Grant Cullimore, M.D., Atchison; "Standard Therapeutics," N. Hayes, M. D., Seneca; "Puerperal Convulsions," M. A. Brawley, M. D., Frankfort. There will be special clinics, and the reports of interesting cases in practice. A cordial invitation is extended to members of the profession to be present. Any information concerning the society and its meetings can be secured by addressing the secretary, M. M. Wachter, M. D., Baileyville, Kas.

DR. KROGUIS, of Paris, has made some experiments on the puriform urine of ten persons suffering with chronic stricture or catarrh of the bladder and pyelo nephritis. In one of these cases a bacillus was foundwhich when cultivated, and injected into the tissues a of rabbit caused death in a few hours, and in no case was death delayed longer than two days. High fever, extensive gangrene extending very rapidly and gave off a strong ammoniacal odor, and is called by the author "Liquefacieus Septicus."

PADDOCK in the *Archives* says, ergot of rye is useful in all forms of chronic congestion and vascular dilatation in the eye, particularly episcleritis and chronic conjunctivitis. It should be given in maximum doses.

LITTLE THINGS.

KANSAS as usual is ahead on babies—read report on page 737.

DR. J. K. MILLER of Jetmore, Kas., spent a few hours with us last month.

AMONGST many of the good reports read those of Dr. Cordier and Dr. Reynolds.

THE Eastern Kansas District Medical Society held the best meeting in its history October 14, 1890.

THE District Medical Societies are doing good work now. Read the reports in this and in the next number of the JOURNAL.

ALBOCYTE—The new blood corpuscle is described as spherical, colorless and about one third the diameter of the red blood corpuscle.

DR. M. B. WARD has been elected by a unanmous vote at a late meeting at Philadelphia, to fellowship in the American Association of Obstetricians Gynaecologists.

THE class in attendance at the "Kansas Medical College" is, take it altogether, above the average in a literary point of view.

THE faculty of the Kansas Medical College extends a cordial invitation to the profession when visiting Topeka to visit the college.

A 1 per cent. solution of the dried toad poison, the secretions of its glands, it is claimed, produces complete anæsthesia of the cornea and conjunctiva, lasting four or five hours.

STANLEY seems to have great belief in vaccination. He says his Zanzibar followers escaped variola because they were vaccinnated, and Stanley knows something of smallpox in Africa.

THE saline treatment of peritonitis, is relegating the opium plan to its proper place, viz: the relief of pain; the day of splinting the bowels with opium is happily passing away, and we seldom hear of it any more.

ANY physician who desires to read a paper before the section of Ophthalmology, Otology, etc., at the Kansas State Medical Society, would confer a great favor by notifying the secretary as soon as possible.

G. A. WALL, Secy.

Dr. Guido Bell, of Indianapolis, in a paper read before the American Medical Association on "Intubation of the Larynx," discards the mouth gag and extractor. The accidents liable to occur while attending or introducing the tube will suggest themselves to those having experience in intubating the larynx. First, to the operator a bitten finger; second, the danger of lacerating the tissues of the child, should the mouth be shut too soon, and other disadvantages that are apparent. We think we will still use the mouth gag and the extractor, until something better offers.

GONE.—Dr. M. H. Cazier, Professor of Physicial Diagnosis and Disease of the Chest, in the Kansas Medical College,

DEPARTED

from this state and entered the state of matrimony at Racine, Wis., Oct. 9, 1890, with one of the Badger states fair daughters, Miss Lillian Hart. The doctor has made amends in full by returning to Topeka with his fair help-meet and will gladly receive friends at 1112 Topeka avenue. The JOURNAL'S best wishes are with you. Bachelor doctors—go and do likewise.

A SPLENDID CHANCE FOR THE RIGHT MAN.—In a town of 3,500 inhabitants, one of the most desirable cities, as a home in the State—a physician who desires to make a change on account of health, will introduce the physician by taking him in as a partner for six months and withdrawing, leaving at the expiration of that time. For particulars adddres, B. A., care KANSAS MEDICAL JOURNAL, Topeka, Kas.

THE celebrated Larry was called to the court to attend the King's daughter in confinement. The king said, ah, you should be pleased to attend my daughter in such a case, it will make your reputation, will it not? To which Larry replied, sire, I should not be here *as accoucheur* were my reputation not already established.—*Lancet and Clinic.*

AFTER July 1, 1893, the Colorado State Board of Health will accept the diplomas of no school which does not have an obligatory three years' course of instruction of five months each in three different years. Dr. T. A. Hughes, of Denver, the efficient secretary, has so notified all medical colleges of the country.

DRS. L. A. BUCK, of Peabody; T. H. Hall,

of Alma; B. F. Morgan, of Riley; W. W. Morgan, of Clay Center; A. B. Sellards, of Scranton; A. D. Smith, of Wamego; and W. C. Bower, of Lebanon, were callers at the JOURNAL office during the last month. They came to do honor to our Nation's chief, President Harrison, who visited our city at that time.

STANLEY'S recent Emin Expedition was equipped entirely with Fairchild's Digestive Ferments in preference to any others, and in the recent attack of gastritis from which Mr. Stanley suffered, he was entirely sustained upon foods previously digested with Fair child's Extractum Pancreatis.

DIVIDING the capsicle during the corneal section, in extraction of cataract has been practiced to some extent, but we believe the advantages of the method are more than counterbalanced by the disadvantages to be encountered.

THAT cancer on the body politic "*The original package* house" which was removed about two months ago, has again made its appearance. This early recurrence shows its malignancy. In our opinion the actual cautery should be applied.

THE last meeting of the Eastern Kansas District Medical Society, at Topeka, was a very interesting and profitable session. The society is full of life and doing good work under the administration of the worthy president, and secretary, Dr. M. B. Ward and Dr. W. D. Bidwell.

THE civil, military and naval departments of the Brittish Government are supplied with the Fairchild Digestive products and the Fairchild preparations for the predigestion of milk, etc., are especially preferred in India.

"HOW often should the baby nurse its mother," is the subject of a desertation by a recent author. We have not arrived at the precise schedule on this point, but we should think not quite so often as the mother should nurse the baby.—*Weekly Medical Review.*

SUSPENSION in the treatment of Locomotor Ataxia is about to be placed on the shelf with the other fashions that have prevailed from time to time, "weighed and found wanting."

SOCIETY PROCEEDINGS.

Republican Valley Medical Society.

The Republican Valley Medical Society, convened Thursday, October 2, 1890, at 2 p. m., in Dr. Leterneau's office, Concordia, Kansas. Dr. J. A. Jeannotte, of Clyde, president, in the chair.

Dr. J. H. Brierly, of Glasco, was chosen secretary, *pro tem.*

Members present—Drs. N. Udell, W. F. Sawhill, J. H. McCasey, A. Leterneau, W. R. Priest, R. Marcotte of Concordia; J. A. Jeannotte, of Clyde; F. M. Dailey, of Scottsville; J. H. Brierly, Glasco; Leslie, of Clyde; G. A. Wall, of Topeka; Grant Cullimore, of Atchison; McLaughlin, of Clyde.

The following new members were enrolled: Drs. G. M. Lowe, of Randall; W. H. Lee, of Glasco; Louis B. Michaud, of Ames. R. S. Magee, of Topeka, correspondent of KANSAS MEDICAL JOURNAL, elected member of the society by acclamation.

Committee on credentials — Drs. F. M. Daily and Marcotte.

Dr. Brierly, of Glasco, presented a very interesting case, with the following history: Male, aged about 55, white, suffered with constipation. In May prescribed for him. Disappeared until in September. In the meantime he had gone to Emporia, where some one recommended Dr. Wilford Hall's hot water injection as a panacea. He was becoming much emaciated and suffering from dysentery. After his return I treated him; thought he showed a cachexia; still loss of appetite; when lying on his back a large lump showed in the abdomen; the lump could be rolled from side to side but not downwards, showing pretty conclusively by exclusion that it was a tumor of the omentum, situated just below the stomach. An opportunity was here given for every one present to examine the case, after which the following discussion took place.

Dr. Daly endorsed the diagnosis of Dr. Brierly of its being an omental tumor, and that an operation is justifiable.

Dr. Leterneau—Have you made a stomachic or rectal injection, to see if any extension of the abdomen could be made?

Dr. Brierly—No.

Dr. G. M. Lowe—It is my opinion that section will show no attachment of the tumor to the stomach, but that it is wholly in the omentum.

Dr. Grant Gullimore—I coincide with the diagnosis, and believe the prognosis good, providing the hemorrhage is controlled.

Dr. N. Udell—Thinks the tumor malignant. That an operation is justifiable. Don't think an operation will prolong his life to any great extent

Dr. J. A. Jeannotte—Confirms the diagnosis and proposed treatment; an operation should be done; the patient will die anyhow, and an operation may prolong his life. If there is a chance it is the duty of the surgeon to take it.

Drs. Brierly, Sawhill and Lee will operate some time during the coming week, and have promised the JOURNAL a full account of the case.

Dr. J. H. McCasey presented a case of a lady who was having frequent and copious membranous discharges from the bowels, and specimen of the discharge was shown.

A committee, consisting of Drs. Cullimore, Daily and Marcotte, were appointed to examine the case and report to the society.

Committee reported Lumbricoides Treatment Santonin as the doctor had already been giving with improvement.

Dr. Lowe presented the following case:—Boy, aged 14, diarrhœa two weeks, treated by the family. Bowels became distended, which parents thought was gas as he suffered severe colicy pains. Breath was foul and of a decidedly ureamic odor. After four days he complained to his parents that he had not passed any urine. This alarmed them, and I was called. Found him vomiting, with persistent thirst. The distention of the abdomen had disappeared. Tried to pass catheter, but failed. This was in the morning; patient died the following night. Autopsy showed rupture of the bladder. About one quart of mucus, tinged with blood, was found in the peritoneal cavity. Two weeks previous had been kicked by his stepfather in the thigh with sufficient force to cause him to reel, but post-mortem examination revealed no visible lesion in this region.

Question 1. Had the kick anything to do with the rupture of the bladder?

2. Would an operation on the morning I saw him have accomplished any good result, and would it have been justifiable?

DISCUSSION.

Dr. W. F. Sawhill—Don't think that anything better could have been done, even had the urine been drawn. The parents had delayed too long—neglect. A physician is not expected to, neither could he carry all the instruments with him on every visit that may be necessary in every operation, surgical or otherwise.

Dr. R. S. Magee—The rupture occurred when the distension disappeared. An operation at that time offered the only hope. If the doctor had been called prior to the rupture, a trocar or aspirator should have been used, and the urine drawn, *supra pubic*. No blame can be attached to the doctor's treatment in the case. Knew of a case recently where the urine had been drawn off with a trocar, and a silver catheter inserted and allowed to remain, with good results. Patient using a cork in the mouth of the catheter, and drawing off the urine at stated intervals.

Dr. W. F. Sawhill reported an interesting case of dysphagia, as a result of paralysis following diphtheria. Had to be fed by rectal enemas for four weeks. Had now commenced to swallow small mouthfuls of liquid food but would vomit almost immediately. A report of the case will be given when a termination is reached.

Dr. Cullimore read a paper on cataract, congenital and zonular.

DISCUSSION.

Dr. R. S. Magee—Nothing elicits the sympathy more than congenital blindness. The diagnosis is somewhat difficult, and should be made with care. The operation of discission is not at all difficult, and can be done entirely antiseptically. If the cataract is monocular, and vision good in the other eye, would not operate unless there was pain, as patient has become accustomed to seeing with one eye, and if lens is removed it will necessitate the wearing of glasses.

Dr. F. M. Daily—The discission operation

should be done early. It is safe and comparatively easy.

The paper was further discussed by Drs. Daily, Sawhill and Jeannotte.

This completed the program.

Two questions were proposed for general discussion, as follows:

1. Why is atropine used by the oculists in correcting error of refraction?

2. How would you detect whether a muscular defect of the eyes was causing headaches?

These questions were discussed at length by Drs. Daily, Jeannotte, Sawhill, Cullimore and Magee.

The convention was a valuable one for the practical work done, and not for the number of its papers.

Adjourned to meet in Concordia First Tuesday in April, 1891.

J. H. BRIERLY, M. D.,
Secretary, *pro tem.*

The Golden Belt District Medical Society.

The Golden Belt District Medical Society held its fall meeting in Abilene, Kansas, Thursday, October 2, 1890.

Meeting called to order at 4 o'clock, p. m., President P. Daugherty, M. D., in the chair.

The following members responded to roll call:—Drs. Austin, Hazlett, Felty, King, Ross, Kauffman, of Abilene; Daugherty, Hays, King, of Junction City; Dewees, Browne and Harvey of Salina; Ketchersid and Blush of Hope; Hatman of Manchester; McClintock of Topeka.

The minutes of last meeting read and approved.

Dr. Browne, of Salina, read a paper entitled "The Formation of Urethral Stricture, with special reference to its Treatment." He advanced the theory of urine leakage as a causative factor in urethral stricture. He advocated the treatment of gradual dilatation as being best and safest, if any instrument could be used at all. But if not, the continued method of internal and external urethrotomy.

Under discussion, Drs. Felty, Dewees, Blush and Daugherty complimented the paper, and confirmed the treatment.

Dr. Blush said he had seen cocaine used in three cases before the passage of the sound, with good effects.

Dr. Hazlett, of Abilene, then read an excellent paper entitled, "A few remarks on Strabismus."

Motion to adjourn till 7:30, p. m. Carried.

EVENING SESSION.

Meeting called to order at 7:30, p. m., President Daugherty in the chair.

By invitation of Dr. Dewees, Salina was selected as the next place of meeting.

Dr. McClintock, of Topeka, read a paper entitled, "Surgical Treatment of the Prostate." He selected three very interesting cases, where he had performed perinæl prostatonomy, removing a U or V shaped piece from the prostate, with excellent results in two cases.

Dr. Ketchersid, of Hope, then read a paper entitled "Surgical Treatment of Empyema." He used the aspirator as a means of diagnosis principally, and directed the after treatment according to the nature of the fluid found.

Drs. Buck, Felty, King and McClintock, complimented the paper highly, and confirmed the treatment.

Dr. Guibor, of Topeka, who was to have read a paper on "Acute Nasal Catarrh," was prevented from attending by illness.

Dr. Dewees, of Salina, then volunteered a paper on "Digitalis; Indications for the use of."

In view of the theory recently advanced by Dr. H. C. Wood, of Philadelphia, in his article read at the International Medical Congress, at Berlin, advocating digitalis in collapses, from the effects of an anæsthetic, Dr. Dewees thought it proper to study its general action and use. He advocated the old theory of Rosunsteim, that when the arteries were empty and the veins full, then digitalis was always indicated.

DISCUSSION.

Drs. Felty and Blush had never used digitalis under these circumstances, considering it too slow, but preferred ammonia and alcohol.

Dr. Ketchersid said that digitalis increased arterial tension, and thereby decreased nutrition, and ammonia and alcohol increased it.

Dr. Daugherty said he used digitalis with

extreme caution, owing to the unreliability of the preparations in the market. He said digitalis was indicated in dilatation of heart, when compensatory hypertrophy was not present; but when it was, digitalis was contra-indicated.

"Malarial Affections," being the subject for general discussion, it seemed the universal opinion that we knew little if anything of the cause of malaria.

The majority advocated larger doses of quinine.

Dr. McClintock referred to the intra-venous injection of muriate of quinine, and also the hypodermic injection. Never had an abscess follow.

Dr. Hazlett had used the bisulphate of quinine hypodermically, and had numerous abscesses.

Dr. Dewees had used the compressed tablets of quinine prepared by John Hyatt & Bro., for hypodermic use, and never had an abscess.

Dr. Felty favored small doses of quinine oft repeated. Never had given but one 20 gr. dose, and then the patient died.

On motion of Dr. Dewees, Dr. L. A. Buck, of Peabody, Kansas, who was present with us, was unanimously elected to honorary membership.

Meeting adjourned till the second Thursday in January, 1891.

Dr. F. B. BROWNE, Secretary.

Topeka Academy of Medicine and Surgery.

The Topeka Academy of Medicine and Surgery met in regular session at Lincoln post hall, Tuesday evening, October 7, President Dr. L. H. Munn presiding.

There were present Drs. McGuire, Pelton, Uhls, Donaldson, Shelton, H. W. and G. O. Morgridge, R. E. and W. E. McVey, Mitchell, Green, Lewis, Magee, Minney, Stewart, Peers, Tefft, Longshore, Gibson, Williamson, Limmer, Lindsay and Righter; Mr. Walker, druggist, and Mr. Gilbert, medical student.

Drs. L. L. Uhls, graduate of Rush, 1884; W, R. Wallace, graduate of Starling, 1880, and G. O. Morgridge, Keokuk, 1870, were elected members of the Academy.

Dr. R. E. McVey read a paper on "Neuralgia and its Treatment."

DISCUSSION.

Dr. Gibson, being called upon, complimented the paper.

Dr. S. G. Stewart thought most neuralgias were caused by mal-nutrition. All so-called neuralgias are not neuralgias. Reported a case of neuralgia of the orbital region treated successfully with a hypodermic injection of cold water; has often used this with success; has used cocaine in neuralgia hypodermically with success.

Dr. G. O. Morgridge spoke of the term neuralgia being often a meaningless one. Cannot conceive of a pain without a lesion; the pain may be at a distance from the lesion, as the pain in the knee in hip-joint disease. It is said by some that every pain is a call from the nerve for more blood. Spoke of a lesson learned from an old doctor, who said while suffering from a headache at one time, he ate some frozen watermelon. A copious flow of urine followed and his headache was relieved. Always take into account in your treatment of neuralgia the lesion. The more we know of the pathology of this disease the fewer remedies we will use.

Dr. Lindsay spoke of the nerve endings that transmit sensations of pain alone. This is the only rational reason for the treatment of neuralgia, as it is generally treated. Anemia of the nerve is not the sole cause of neuralgia, for we have cases where there is hyperemia.

Dr. Sheldon thought often neuralgia could be relieved by phlebotomy near the seat of pain. Related a case of severe neuralgia relieved in this way by the patient accidentally cutting his foot.

Dr. Donaldson was surprised at the small doses of gelsemium used by the author of the paper. Said he had been in the habit of using larger doses. Had used quinine and phenacetine, 3 grs. of each, with good results.

Dr. Pelton asked, what is pain? Exalted sensibility. In some cases normal sensibility with exalted activity. In some cases we have a neuralgia of central origin with peripheral pain, and *vice versa*. Had often used electricity with good results. Had used phenacetine in 5 gr. doses with good results.

Dr. McVey, in closing, in answer to Dr. Munn's query, whether ½ gr, morphia was not too much; said he usually combined it with atropia, then it was not too much, as the atropia counteracted its bad effects, and helped to control pain. Said large doses of gelsemium, in his experience, produced disagreeable diplopia

Dr. R. S. Magee followed with a paper on "Corneal Ulcers, and their Treatment with Galvano-Cautery."

DISCUSSION.

Dr. W. E. McVey said he had seen many of the cases mentioned in the paper, both before and after treatment with the cautery, and thought the results good and entirely satisfactory.

Dr. G. O. Morgridge said the galvano-cautery was used by many eminent oculists, but thought it had its bad features as well as many good ones. The cicatricial tissue remaining after the healing process was much less when the galvano-cautery was used than that following the use of any other plan of treatment. Had been in the habit often of using an ointment of iodoform, 20 grs. to the ounce of vaseline, in the treatment of these ulcers.

Dr. Wall thought the class of ulcers made some difference. Those known as rodent ulcers are best treated by the galvano-cautery. For simple ulcers prefers atropia, or cocaine, with hot stimulating applications. Spoke of malarial keratitis being best treated with quinine internally. He had found the yellow oxide of mercury an efficient agent in the indolent ulcer, and highly recommended its use.

Dr. G. O. Morgridge spoke of the yellow oxide of mercury in the later stages being good, but not so efficient in the stage of hyperæmia.

Dr. J. E. Minney said patients object to iodoform because of its disagreeable odor. Advocated strongly the use of the cautery, and in place of the iodoform uses a saturated solution of boracic acid.

Dr. Magee, in closing, said he had been unable to find any authority who outlined the variety of ulcers to which the galvano-cautery should be applied. Does not think that in the indolent ulcer the yellow oxide of mercury would be absorbed because of the occlusion of the lymphatics, and it will simply lie dormant and be ineffectual. More active means of stimulation will have to be resorted to, and this we find in the cautery.

On motion a committee of three, consisting of Drs. Minney, Michell and McGuire, were appointed to arrange for the entertainment of the Eastern District Medical Society, which meets in this city Tuesday evening, Oct. 14.

Papers for next meeting:

"Report of a Case of Rheumatism, with Choreic Complications," by Dr. S. G. Stewart.

"Report of a Case of Gun-shot Wound of Abdomen," by Dr. C. C. Bradley.

Adjourned to meet first Tuesday evening in November, when the annual election of officers occurs. D. F. RODGERS, Secretary.

Eastern Kansas District Medical Society.

The Eastern Kansas District Medical Society met at Lincoln Post hall, Topeka, Kansas, October 14, 1890, at 8 p. m.

Present—Drs. G. P. Marner, Morganville; J. T. Scott, Holton; L. Reynolds, Horton; H. S. Pickard, Burlingame; F. E. Schenck, Harveyville; C. R. Carpenter, W. J. Van Emon, and W. D. Bidwell, of Leavenworth; O. C. McNary, Soldier's Home; W. C. Tyree, D. R. Porter, and J. D. Griffith, Kansas City, Mo., Geo. M. Gray, Kansas City, Kansas; W. L. Schenck, Osage City; D. C. Jones, D. R. Pelton, W. E. McVey, W. S. Lindsay, H. C. Miner, D. F. Rodgers, M. B. Ward, R. S. Magee, J. E. Minney, J. L. Owen, J. W. Redden, Theo. W. Peers, R. E. McVey, J. W. Donaldson, J. P. Lewis, M. H. Cazier, M. R. Mitchell. S. G. Stewart, J. C. McClintock, W. H. Righter, L. L. Uhls, H. K. Tefft, C. C. Green, H. L. Alkire, H. T. McLaughlin, and J. D. Gibson, Topeka.

Drs. Jones, Schenck and Lewis were appointed censors.

The following were elected to membership: H. M. Downs, Kansas City, Kansas, graduate of University of Michigan, 1880; G. O. Morgridge, Topeka, graduate of Keokuk, Iowa, 1870; Geo. L. Limmer, Topeka, graduate of Kansas City Medical College, 1888; Edmund Longley, Burlingame, graduate of McGill College, Montreal, Canada, 1866.

A. H. Fabrique, Wichita, was elected honorary member.

Dr. Carpenter read a paper on "The Water Supply of Leavenworth."

DISCUSSION.

Discussion was opened by Dr. Schenck, in the absence of Dr. Terwilliger. He endorsed the statements of the author, speaking especially of the necessity of doing away with typhoid fever, which is a human filth disease. He remarked that up to ten years ago typhoid was almost unknown in the state, but now, especially in older cities, like Leavenworth, human excrement, has entered the soil and is accomplishing its work. He thought Dr. Carpenter's conclusions were almost identical with those of Dr. Milroy, of Omaha. The analysis of wells used by private individuals, especially those within 100 feet of privies, should be attended to as well as the analysis of reservoirs for public use, and the majority of them condemned, for they cannot be purified. The doctor enlarged upon the duty of the physician to preserve health as well as to heal such cases of disease, as in fact send for them.

Dr. Porter, of Kansas City, was interested in the paper, because it came near home. He admired Murchison, because he believed that typhoid fever originated *de novo* in many cases, and that was his own opinion. In his opinion cistern water was not as safe as Missouri river water, the stirring up of the current being most efficacious for its purification.

Dr. Griffith, of Kansas City, stated that he was on the state board of health, and hence had an interest in this subject. Memphis alone has good cistern water, and that is due to the absence of cesspools in the city. The average cistern has cracks, through which sewerage will seep very easily. Hydrant water can be purified by the Pasteur filter, or by additional heating to 212°. Dr. Davis had informed him that the sewerage emptying into the Hudson river had to be thoroughly disinfected, and Dr. Griffith thought the time was coming when the Missouri river water would have to be similarly treated.

Dr. Bidwell was of opinion that typhoid did not originate *de novo*, and that in the case of Leavenworth, at least, the hydrant water was worse than the well and cistern water, although it could be brought to a potable condition by a moderate expenditure of time and money.

Dr. Jones stated that all except possibly one of his cases of typoid fever this year, had used hydrant water.

Dr. Schenck spoke of the greater danger of using Kaw than Missouri river water.

Dr. McNary stated that the water used at the Soldier's home was pumped one and one-half miles below the outlet of the Fort sewer. He stated that they had had no cases of typhoid fever at the Home; had few cases of dysentery, and had almost no winter cholera when it prevailed.

Dr. Carpenter closed the discussion. He was careful to state that cistern water was safe only so long as the cistern remained tight.

The paper was received.

Dr. Reynolds read a paper on a "Case of Femoral Herniotomy."

DISCUSSION.

Dr. Van Emon, of Leavenworth, was invited to open the discussion. He advocated early operation, mentioning a similar case operated on eight years ago, in which the patient has remained well since.

Dr. Griffith spoke of the difficulty of diagnosis of lumps in this vicinity in many cases, describing a case he took for hernia, but after taxis under chloroform for twenty minutes he made an incision, and out rolled a quantity of pus. The bowels had been very constipated, vomiting had been severe, and even stercoraceous. The diagnosis of femoral from inguinal hernia was often impossible until an incision was made.

Dr. Schenck said that Sir Astley Cooper had had a similar experience to Doctor Griffith.

Dr. Lindsay inverted a patient to accomplish reduction, and when Dr. Stewart cut down he found a quart of pus, and the patient died that night.

Dr. Rodgers spoke of a case of hernia he took for epididymitis or orchitis. Vomiting of stercoraceous matter occurred. Operation by another surgeon later showed a gangrenous bowel, and death ensued.

Dr. Righter referred to the case spoken of by Dr. Lindsay, stating that there was no question of hernia when he saw it, and he had given no such opinion.

Dr. Reynolds closed the discussion, mentioning a case of hip-joint disease, in which the burrowing of pus simulated a rupture.

Paper was received and will appear in the November number of the KANSAS MEDICAL JOURNAL.

Dr. Gray, of Kansas City, read a paper on "Surgical Treatment of Tuberculosis of the Knee Joint.

DISCUSSION.

Dr. Griffith considered that most cases of bone disease were due to some organism.

Dr. Sands, of N. Y., prefers thelongitudinal to the U shaped incision. He thought that fixation and extension were very often indicated.

Ex-section was preferred to erasion because a better cleaning was accomplished, and nails were preferred to wiring. The Dr. had put up some joints before taking off the Esmarch bandage.

Dr. Rodgers thought the opening of the dressings for daily irrigation was inadvisable.

Dr. Jones favored daily irrigations to avoid the formation of sinuses.

Dr. Lewis stated that Dr. Thomas, of Liverpool, was the originator of the practice of extension and fixation, and Dr. Gibney was his follower.

Dr. Gray closed the discussion, stating that all the diseased tissue was not removed, hence the necessity for irrigation.

Paper was received.

Dr. Theo. W. Peers reported a case of "Poisoning by Cigarette Smoking."

Moved and seconded that the paper be received.

DISCUSSION.

Dr. Schenck opened the discussion by remarking the action of smoking upon the heart, and that vastly greater evil results were brought about by the use of tobacco than any that had been mentioned.

Dr. Porter described a case of violent convulsions in a young man similar to the one described by Dr. Peers.

Dr. Tyree spoke of the swelling of the mouth and gums, so often occurring in cigarette smoking.

Dr. McVey thought the case of Dr. Peers was due probably to some severe mental shock, and that cerebral anemia existed in a boy of neurotic constitution.

Dr. Griffith wished to know why cigarette smoking caused tobacco heart and nervous symptoms quicker than cigar or pipe smoking.

Dr. Pelton described a case of pericardial pain under similar circumstances to Dr. Peers' case.

Dr. Bidwell thought that cigarette smoking was more dangerous than pipe or cigar smoking, being carried on by a younger class of persons, and inhalation of smoke being also more frequent among them.

Dr. Carpenter agreed with Dr. Bidwell, and found the tobacco heart was very common among applicants for life insurance.

Dr. Lindsay thought there was no indication of cerebral hemorrhage in Dr. Peers' case.

Dr. Lewis spoke of the symptoms resembling multiple neuritis, as in the case of arsenical poisoning.

Dr. Peers closed the discussion.

Paper was received.

A bill of $5 for postage and programs was allowed.

It was moved and carried that the January meeting of the Society be held in Topeka.

An adjournment to an elaborate banquet, spread by the Topeka brethren, was then taken. Peace and harmony prevailed, and at an early hour the medicos sought refreshment by "Tired nature's sweet restorer, balmy sleep."

Sixth District Medical Society.

The Sixth District Medical Society met at Downs, October 9, 1890.

Meeting was called to order by Dr. W. A. Leigh, of Stockton, President.

Dr. Poole was appointed secretary, *pro tem.*

Present—Drs. Leigh, of Stockton, Poole of Downs, Daly of Scottville, Swigart of Beloit, Lobdell of Beloit, Sawhill of Concordia, Dillon and Chilcott of Osborne City, Brierly of Glasco, Cullimore of Atchison, and Wall of Topeka.

Moved by Dr. Daly, that all visitors wishing to join do so by signing the constitution. Carried.

Drs. Brierly, Lobdell, Chilcott, Swigart, Cullimore and Wall, were elected to membership.

Dr. Cullimore read a paper entitled "Zonular and Congenital Cataract." He gave the definition of these forms, stating their cause, laying particular stress upon the advisability of early diagnosis. Spoke of the cause as being rachitis, scrofulous, and especiallyconvulsive. Advised early operation; as early as 3-6 months.

Dr. Daily—Had never seen a case of zonular cataract. Considered the operation very simple. Has no fears of suppuration from needling. Says he has no fear of pus.

Dr. Cullimore closing, said, that the child should not be left after the operation. Treat the child half an hour before operation by antiseptic washes, Boric acid gr. xx, aquæ camph. ℥i, aquæ Dest. ℥iii. Wash out horoughly. Should cover the eye with iodoform and vaseline (gr. x—℥i). After the operation atropine to avoid iritis. Should be careful in its use as it quickly reddens the eye. Says there is no retinal chorroidal changes.

Dr. Daily read a paper "How to Practice Antiseptic Surgery in the Country."

The paper was freely discussed by Drs. Brierly, Sawhill and others.

Dr. Daily laid stress on cleanliness; said iodoform prevents the formation of bacteria. Would not use bichloride in surgery. Thinks that medicines are detrimental to wounds when used in wounds; says if wound is kept clean will not get pus.

Dr. Wall read a paper on "Mastoid Abscess," which was discussed by Drs. Daily, Cullimore and Swigart. Society adjourned to meet in Beloit the second Thursday in April.

[The JOURNAL is under obligations to Dr. Wall for the above minutes.—ED.]

Stricture of Urethra.

LACERATION OF THE CANAL—URINARY INFILTRATION—EXTERNAL URETHOTOMY WITHOUT A GUIDE.

BY A. H. CORDIER, M. D., M'PHERSON, KAS.

White male, age 50 years, of sober and temperate habits.

For several months this pataient has had "trouble in passing his water," giving history of a close urethral stricture with prostatic enlargement.

On Monday night October 8, 1890, after an unsuccessful attempt to void the urine for twenty-four hours and while still straining in his attempts to relieve the urgent desire to do so, he suddenly felt a "giving away" sensation in the perineum accompanied by a tearing and distending pain and soon thereafter he noticed a swelling in front of the anus which rapidly extended to the scrotum and penis until all semblance to the male genital organs were destroyed. No urine escaped from the meatus.

The escape of this quantity of urine from the distended bladder, into the tissue caused a temporary relief of the urgent and uncontrolable desire to urinate, and as the case was being treated (?) by a Christian Scientist, his faith prior to this time during the preceding twenty-four hours had almost vanquished, but now with renewed assurances from this miracle (?) performer and a temporary relief caused by the urethra giving away and a large perineal and scrotal urinary infiltration, thus relieving the over distended bladder, he immediately renewed his allegiance to "faith cure" and postponed sending for a physician for another twelve hours or until the capacity of Buck fascid was taxed to its utmost capacity by the escaping urine and his bladder became over distended again.

Now for the first time he lost all faith in promises, "that all will be well if you only have faith and think so," and sent for a doctor. Dr. Burtt of Canton, was called, who called Dr. George of same town in consultation, both agreeing as to the advisability of an immediate operation. The patient refusing to submit to the more rational and radical operation of external urethotomy. The physicians after long and tedious effort with the patient anæsthetized, succeeded in introducing a small hard rubber catheter, and in relieving the distended bladder, the patient feeling much relieved as far as the desire to urinate was concerned. The scrotum and perineum remaining distended.

October 10—Late in the evening of the third

day after the urethra had given away, I was telegraphed for to see the case with Dr. Burtt. I found the patient with a temperature of 102° F, pulse 110 very feeble, with a countenance indicative of a loss of sleep, suffering and much prostration. The bladder was full and tender to pressure. The scrotum as large as a good sized cocanut, very dark, bordering on a gangrenous condition. The perineum was greatly swollen, very tender to touch. Has not passed urine for nearly twenty-four hours. Will not submit to an operation. After a careful effort I succeeded in getting a very small instrument through the stricture and on its passing through the stricture, it immediately entered a cavity, meeting with no resistance for nearly two inches, it now refused to go farther. As soon as the stricture was passed a bloody purulent fluid began passing through the catheter, having the characteristic odor of decomposed or ammoniacal urine. I knew I was in the cavity of the deep layer of the perineal (superficial) fascia at the site of the rupture in the urethra, and that the fluid escaping from the instrument was decomposed infiltrated urine.

After patiently and carefully waiting for fifteen minutes I succeeded in striking the proximal end of the urethra, entering the bladder and drawing off its contents and washing out its cavity.

The instrument was left in, that as much of the urine might escape by that channel as possible and thus avoid further infiltration, trusting that nature (the patient refusing to be operated on) would relieve the infiltrated urine by a fistulous opening in the perineum, or by a slough as is the usual termination in like cases where the art of surgery or death does not relieve them of their suffering.

During the night he removed the catheter and the next morning Dr. Burtt found the bladder in a distended condition the same as the day before, but all efforts at introducing the catheter were unsuccessful, so I was wired to come prepared to perform the operation of *external urethotomy without a guide.*

At time of operation patient's temperature was 102° F, pulse 110 and the general and local state of affairs were not such as to cause one to feel that the "operation would ever be a success." The old saying, that the "operation was a success, but the patient died" I was afraid could not be applied to this case.

In recent cases, I mean by recent cases, immediately after the rupture of the urethra the operation is considered by the most expert operators, to be one requiring much time and considerable anatomical and surgical knowledge and skill. Dr. Keys says: "When you go to do an external perineal urethotomy without a guide, have your patient facing a window where you will have two hours of good and continuous light." This remark he makes in speaking of operating to relieve a close stricture when the perineum is not distended and distorted almost beyond a semblance to the normal perineum.

Dr. George administered the ether, Dr. Burtt assisting in the operation Patient placed in the perineal lithotomy position.

Thorough antiseptic precautions taken in getting parts ready for operation—*Thiersch's solution* hot for sponges and instruments.

A groved staff was introduced as far as the stricture or as far as it could be passed, a median incision was made, the back of the knife being turned toward the rectum in which the finger of left hand was introduced to act as a guide to the knife on its hunt for the proximal end of the urethra.

The first thrust of the knife gave vent to a profuse flow of the pent up infiltrated ammoniacal urine and pus, about eight ounces escaping. On introducing my right fore-finger into the wound I found a large abscess cavity as a result of the decomposed urine remaining in the tissues so long.

Two inches of the urethra was found entirely dead and sloughed off so that it came away during the irrigation of the abscess cavity. After some little difficulty the proximal end of the urethra was found and a soft Nelaton's catheter introduced and tied in. The bladder was relieved of its contents and thoroughly irrigated with hot Thiersche's solution, wound washed, an injection of hot whisky was given (per rectum,) patient placed in bed and warmth applied to prevent or ward of shock.

The scrotum and penis were incised in a number of places to allow the urine to drain away that had been infiltrated.

The patient soon rallied from the effects of the operation and anæsthetic.

The next morning October 12, temperature 98½ F, pulse 80. Rested well during the night. Takes some nourishment. Urine passed by catheter in perineum. Thinking it impossible for the urine to ever pass by the natural outlet by the urethra and meatus, from the fact that two inches of the canal was lost I thought all we could expect from the operation was to give immediate relief to the suffering, prevent sloughing of scrotum and perineum, prevent or check the poisonous effects of the absorption of septic matter and support the vital forces until nature would repair the damage done to the perineum and leave a fistulous tract for the urine to escape through.

October 18, one week from date of operation the patient has been doing very nicely; temperature and pulse have remained about normal. The prospect for a recovery with a fistulous opening in perineum and good control of bladder are good at this time.

I have reported this case at length because;

First, the extreme infrequency of like cases.

Second, From the fact that two inches of the urethra sloughed.

Third, that in a practice of ten years this is my second case. The first I did not report.

Fourth, As a warning should this article fall into the hands of a layman and should he ever have an urgent desire to urinate and an inability to do so, to send for a physician and not a christian scientist for relief.

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